

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

As confidentially submitted to the Securities and Exchange Commission on May 25, 2018. This draft registration statement has not been filed publicly with the Securities and Exchange Commission, and all information herein remains strictly confidential.

Registration No. 333-

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

**FORM S-1
REGISTRATION STATEMENT**
*Under
The Securities Act of 1933*

ALTAIR ENGINEERING INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

7372
(Primary Standard Industrial
Classification Code Number)
1820 E. Big Beaver Road
Troy, Michigan 48083
(248) 614-2400

38-2591828
(I.R.S. Employer
Identification Number)

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

James R. Scapa
Chief Executive Officer
Altair Engineering Inc.
1820 E. Big Beaver Road, Troy, Michigan 48083
(248) 614-2400

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Peter Ehrenberg, Esq.
Meredith Prithviraj, Esq.
Lowenstein Sandler LLP
1251 Avenue of the Americas
New York, NY 10020
(212) 262-6700

William J. Schnoor, Esq.
Edwin M. O'Connor, Esq.
Goodwin Procter LLP
100 Northern Avenue
Boston, MA 02210
(617) 570-1000

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer (do not check if a smaller reporting company)

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

Calculation of Registration Fee

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)(2)	Amount of Registration Fee
Class A common stock, par value \$0.0001 per share	\$	\$

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended.

(2) Includes the aggregate offering price of the additional shares that the underwriters have the option to purchase to cover over allotments, if any.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is declared effective. This prospectus is not an offer to sell these securities or a solicitation of an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

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Subject to completion, dated May 25, 2018

Prospectus



Shares

Class A common stock

\$ per share

We are offering _____ shares of our Class A common stock and the selling stockholders identified in this prospectus are offering _____ shares of our Class A common stock. We will not receive any of the proceeds from the shares of Class A common stock sold by the selling stockholders.

Our Class A common stock is listed on the NASDAQ Global Select Market under the symbol "ALTR." On May _____, 2018, the last reported sale price of our Class A common stock as reported on the NASDAQ Global Select Market was \$ _____ per share.

We have two classes of common stock, Class A common stock and Class B common stock. The rights of the holders of Class A common stock and Class B common stock are identical, except with respect to voting and conversion rights. Each share of Class A common stock is entitled to one vote per share. Each share of Class B common stock is entitled to ten votes per share and is convertible into one share of Class A common stock. The holders of our outstanding Class B common stock will hold approximately _____ % of the voting power of our outstanding capital stock following this offering, with our directors, executive officers and current beneficial owners of 5% or more and their affiliates holding approximately _____ % of the voting power.

We are an "emerging growth company" as defined under federal securities laws.

Investing in our Class A common stock involves a high degree of risk. Please see the section titled "[Risk factors](#)" starting on page 18 to read about risks you should consider carefully before buying shares of our Class A common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

	Public offering price	Underwriting discounts and commissions(1)	Proceeds to the Company, before expenses	Proceeds to the selling stockholders, before expenses
Per share	\$ _____	\$ _____	\$ _____	\$ _____
Total	\$ _____	\$ _____	\$ _____	\$ _____

(1) See the section titled "Underwriting" for a description of the underwriting discounts and commissions and offering expenses.

We have granted the underwriters a 30-day option to purchase up to an additional _____ shares of Class A common stock at the public offering price, less the underwriting discount, to cover over-allotments.

The underwriters expect to deliver the shares on or about _____, 2018.

J.P. Morgan **RBC Capital Markets** **Deutsche Bank Securities**

William Blair **Canaccord Genuity** **Needham & Company** **Berenberg Capital Markets, LLC**

The date of this prospectus is _____, 2018

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The world we live in is built on engineering.

It's in almost everything we touch, a part of every human experience. It's in the planes and trains we sit in, the cars we drive and the elevators we ride to the sky. It's even in the valves that give us heartbeats and the equipment that saves our lives.

But not all engineering is created equal.

And without something that's been meticulously constructed, simulated, optimized, challenged and then challenged again — it leaves the design ready to fail.

That's where Altair makes all the difference.

It's the difference between soaring through space and contaminating it. Between lightweight and heavyweight. Sinking and swimming. Between an engine that revs politely and an engine that roars. It's the difference between qualifying for the Olympics and cutting a close second.

So what will you engineer with the power of Altair?

We ask you to not just design something.

We ask you to ...DESIGN THE DIFFERENCE™



**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Table of contents

Prospectus summary	1
The offering	13
Risk factors	18
Special note regarding forward looking statements	22
Market, industry and other data	24
Use of proceeds	25
Dividend policy	26
Market price of common stock	27
Capitalization	28
Dilution	30
Principal and selling stockholders	32
Description of capital stock	35
Shares eligible for future sale	42
Material United States federal income tax consequences to non-U.S. holders of our Class A common stock	45
Underwriting	50
Legal matters	57
Experts	57
Where you can find more information	57
Incorporation of certain information by reference	57

Neither we, the selling stockholders, nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this prospectus or in any free writing prospectuses we have prepared. We and the selling stockholders take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the selling stockholders are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained or incorporated by reference in this prospectus is accurate only as of the date of this prospectus or the date of the applicable document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of shares of our common stock. Our business, financial condition, results of operations, and prospects may have changed since that date.

For investors outside the United States: Neither we, the selling stockholders, nor the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our common stock and the distribution of this prospectus outside of the United States.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Prospectus summary

This summary provides a brief overview of information contained elsewhere in this prospectus and in the documents incorporated by reference. This summary does not contain all of the information you should consider before investing in our Class A common stock. You should carefully read this prospectus and the documents incorporated by reference in their entirety including "Risk factors" included in this prospectus and incorporated by reference and "Management's discussion and analysis of financial condition and results of operations" and the financial statements and the notes to those financial statements incorporated by reference in this prospectus before investing in our Class A common stock.

Our vision

Our vision is to transform product design and organizational decision making by applying simulation, optimization and high performance computing throughout product lifecycles.

Overview

Altair exists to unleash the limitless potential of the creative mind.

We are a leading provider of enterprise-class engineering software enabling innovation across the entire product lifecycle from concept design to in-service operation. Our simulation-driven approach to innovation is powered by our broad portfolio of high-fidelity and high performance physics solvers. Our integrated suite of software optimizes design performance across multiple disciplines encompassing structures, motion, fluids, thermal management, electromagnetics, system modeling and embedded systems, while also providing data analytics and true-to-life visualization and rendering.

The engineering software industry is challenged by increasingly sophisticated design requirements and enabled by the ever expanding availability of cost effective computing power. Rising expectations of end-market customers, new manufacturing methods such as three-dimensional, or 3D, printing, and new materials such as composites, combined with more powerful math-based computational technologies, are expanding the application of simulation across many industry verticals. The Internet of Things, or IoT, is also changing engineering by broadening the scope of Product Lifecycle Management, or PLM, affording the opportunity to leverage simulation and analytics toward the development of "digital twins" to optimize product performance and manufacturing throughput, predict failure, and schedule maintenance operations for in-service equipment.

CIMdata in its 2017 Simulation and Analysis Market Analysis Report, or the CIMdata Report, forecasts, "the PLM market to grow at a compound annual growth rate (CAGR) of 6.7% to \$56.3 billion" in 2021. The CIMdata Report estimates the computer-aided engineering, or CAE, market which they refer to as Simulation and Analysis, as a subset of the PLM market to be approximately \$5.3 billion and \$5.7 billion in 2016 and 2017, respectively. The CIMdata Report expects the CAE market, "will be one of the more rapidly growing segments within the tools sector of PLM over the next five years, and forecasts that this market sector will exceed \$7.8 billion in 2021, with an 8.1% CAGR."

Altair's engineering and design platform offers a wide range of multi-disciplinary CAE solutions which we believe is one of the most innovative and comprehensive offerings available in the market. To ensure customer

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

success and deepen our relationships with them, we engage with our customers to provide consulting, implementation services, training, and support, especially when applying optimization. Altair participates in five software categories related to CAE and high performance computing, or HPC:

- *Solvers & optimization:* Solvers are mathematical software “engines” that use advanced computational algorithms to predict physical performance. Optimization leverages solvers to derive the most efficient solutions to meet desired complex multi-objective requirements.
- *Modeling & visualization:* Tools that allow advanced physics attributes to be modeled and rendered on top of object geometry in high fidelity. These tools are becoming more design-centric and relevant earlier in the development process.
- *Industrial & concept design:* Tools that generate early concepts to address requirements for ergonomics, aesthetics, performance, and manufacturing feasibility. These tools are simulation-driven and, we believe, emerging as a market force eclipsing traditional computer-aided design, or CAD.
- *IoT:* Tools to develop new IoT enabled products, including device and data management, system level and full 3D digital twin simulation, and exploration, predictive analysis, optimization, and visualization of in-service performance.
- *HPC:* Software applications that streamline the workflow management of compute-intensive tasks including solvers, optimization, modeling, visualization, and analytics in fields such as PLM, weather modeling, bio-informatics and electronic design analysis. The HPC middleware software market was forecasted to exceed \$1.6 billion by 2019 by the former high performance analyst team of International Data Corporation, or IDC, which is now owned by Hyperion Research Holdings, LLC, or Hyperion, and is not affiliated with IDC.

Our software enables customers to enhance product performance, compress development time, and reduce costs. Our thirty-year heritage is in solving some of the most challenging design problems faced by engineers and scientists. Altair is also a leading provider of high performance computing workflow tools which empower our customers to explore designs in ways not possible in traditional computing environments. We believe we are unique in the industry for the depth and breadth of our engineering application software offerings combined with our domain expertise and proprietary technology for harnessing HPC and cloud infrastructures.

Our primary users are highly educated and technical engineers, commonly referred to as simulation specialists. We predominantly reach customers with simulation specialists through Altair’s experienced, direct sales force, especially in industries requiring highly engineered products, such as automotive, aerospace, heavy machinery, rail and ship design. To enable concept engineering driven by simulation we make our physics solvers more accessible to designers, who may be less technical and not expert in simulation, by wrapping them in powerful, yet simple interfaces. We are increasing our use of indirect channels to more efficiently address a broader set of customers in consumer products, electronics, energy and other industries.

Altair pioneered a patented units-based subscription licensing model for software and other digital content. This units-based subscription licensing model allows flexible and shared access to all of our offerings, along with over 190 partner products. Our customers license a pool of units for their organizations giving individual users access to our entire portfolio of software applications as well as our growing portfolio of partner products. We believe our units-based subscription licensing model lowers barriers to adoption, creates broad engagement, encourages users to work within our ecosystem, and increases revenue. This, in turn, helps drive

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

our recurring software license rate which has been on average approximately 88% over the past five years. Each year approximately 60% of new software revenue comes from expansion within existing customers.

Altair also provides client engineering services, or CES, to support our customers with long-term ongoing product design and development expertise. This has the benefit of embedding us within customers, deepening our understanding of their processes, and allowing us to more quickly perceive trends in the overall market. Our presence at our customers' sites helps us to better tailor our software products' research and development, or R&D, and sales initiatives.

We were founded in 1985 in Michigan and have a balanced global footprint, with 71 offices in 24 countries, and over 2,000 engineers, scientists and creative thinkers. As of March 31, 2018, we had tens of thousands of users across over 5,000 customers worldwide. We define customers as a company, an educational or governmental institution, any separate or distinct worksite, a business unit, or a particular group that uses our products or services. Billings consists of our total revenue plus the change in our deferred revenue in a given period and is discussed in the section titled "Selected historical consolidated financial and other data—Key metrics" in our Annual Report on Form 10-K for the year ended December 31, 2017, which is incorporated by reference in this prospectus.

We believe a critical component of our success has been our company culture, based on our core values of innovation, envisioning the future, communicating honestly and broadly, seeking technology and business firsts, and embracing diversity. This culture is important because it helps attract and retain top people, encourages innovation and teamwork, and enhances our focus on achieving Altair's corporate objectives.

Industry background

CAE software is essential to innovation across a wide range of highly engineered products in industry verticals ranging from automotive, aerospace, heavy machinery, rail and ship design to consumer electronics and sporting goods. Physical prototypes and testing have been largely supplanted by CAE for design validation over the last twenty-five years. This process continues unabated. Manual drawing and drafting were also replaced by 3D CAD during the same time period. More recently, CAE is emerging in a conceptualization process called simulation-driven design where new design tools are beginning to replace traditional 3D CAD.

CAE software allows engineers to simulate, predict, and optimize how physical products will perform in the real world under a range of operating conditions. CAE applications can accurately solve complex physical interactions through mathematical methods such as finite element analysis, simulate an extensive set of material types, and generate high-fidelity outputs that are realistic virtual representations of physical system behaviors. Modern CAE software can rapidly solve a wide range of complex physics, including structural, fluid, thermal, electromagnetic, system modeling, and embedded system design.

Beyond just simulating physical behavior, CAE can now solve multi-disciplinary optimization problems to numerically optimize parameters and achieve design objectives such as to minimize weight or cost. Utilizing such advanced simulation and optimization methods, engineers and designers can shorten development cycles, virtually test product performance, explore alternatives, and synthesize designs that enhance product functionality, performance and reliability while reducing complexity and costs.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Principal drivers of growth in demand for simulation & analysis software include:

Improving sophistication and fidelity of CAE technologies

The engineering software industry is challenged by increasingly sophisticated design requirements and enabled by the ever-expanding availability of cost effective computing power. Simulation models continue to grow in size, complexity, and range of physics, driving demand for additional computational power and parallelization algorithms, more powerful modeling and visualization tools and more advanced multi-physics solvers. Advances in computing infrastructure have kept pace over time, drastically reducing the time it takes to perform complex simulations and solve large-scale problems such as automotive crash simulation, fluid-structure interaction of subsea oil pipelines and detailed composite simulation of full aircraft structures. As these models continue to grow larger and solve faster, the knowledge and power of these methods to impact design decisions expands across a department, an industry, or from one industry to another, fueling consumption of CAE software.

Fundamental transformations in product engineering

The nature of modern manufactured products is rapidly evolving toward intelligent, connected systems. Once composed solely of mechanical parts, products have become complex systems often combining mechanical hardware, electronics, sensors, controls, software, and communications in myriad ways to monitor and adjust behavior using embedded logic. Advanced driver-assistance systems, or ADAS, autonomous vehicles, or AVs, modern industrial robots and most new consumer products are examples of this new paradigm. This complex interplay across domains is forcing engineers to take a systems-level approach to design, and in turn to rely on advanced computer-aided systems simulation as a necessity in product design. Controls algorithm development, modeling of linked systems, and transfer of control logic into embedded systems can all be done using CAE software to achieve optimal performance and cost and ensure product integrity while minimizing physical prototype iterations.

Democratization of CAE

CAE software access was historically limited to a small pool of specialist engineers in large organizations with a high level of domain expertise and knowledge of complex mathematical modeling and underlying physics. Exploring different product design ideas at the same time through simulation software required reliable, secure, and dedicated high-speed computing infrastructure, which was typically expensive to own and operate. The dramatic increase in computing performance, and an equally dramatic reduction in computing cost over the last twenty years coupled with the growth of cloud computing is making CAE, and especially optimization, cost effective. Coupled with user-friendly software applications which make multi-run design studies less expensive, businesses have the opportunity to expand their CAE user community and overall application of simulation.

We believe record numbers of engineers and designers involved in product development now have access to CAE tools, and any one engineer involved in product development has access to more CAE tools than ever, thus driving increased adoption of CAE solutions across large organizations and by small and medium businesses.

An emerging paradigm of simulation-driven design

Simulation is now driving design innovation, rather than following design. The product development process of recent decades involved creation of a product concept followed by development of a detailed design using

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Pursuant to 17 C.F.R. Section 200.83**

3D CAD. The designs were then passed along to engineering teams to refine, test and optimize. CAE was often too late or too slow to effectively impact the rapid decisions required to correct flawed product designs. Design changes late in the product development process are costly, may delay product launches, and can adversely affect product quality and performance.

Democratization of CAE offers product designers easy access to a user-friendly subset of simulation tools to take into account product performance objectives and manufacturability early in the design process. Going forward, engineering specialists can focus more on detailed validations and complex simulations. This is driving a positive movement toward simulation-driven design processes and a corresponding growth in simulation software consumption.

Expanding scope of simulations to “digital twins”

The evolution of products into intelligent, connected devices—which are increasingly embedded in broader systems—is reshaping how products are engineered, manufactured, operated and serviced. Smart, connected products underpin the IoT and generate vast amounts of actionable data. As consumers and industries begin to realize tangible benefits from connected products, IoT adoption is accelerating. Gartner estimates that the installed base of IoT units will grow to reach more than 20 billion units by 2020.*

CAE software combined with advanced analytics and operating data from sensors make it possible for manufacturers to improve product performance through complete life-cycles. In-service measurements, combined with simulation models, or digital twins, provide information to predict and prescribe maintenance of components or systems. The IoT is changing engineering by broadening the scope of PLM to leverage simulation and analytics for better and more robust manufacturing and in-service operation.

Market opportunity

Rising expectations of end-market customers, new manufacturing methods such as 3D printing, the ability to design and process composites and new materials, combined with more powerful math-based computational technologies, are expanding the application of simulation across many industry verticals and throughout product life-cycles. CAE software offers companies opportunities to achieve better, lower cost products with fewer physical prototypes and tests, and reduces the time required to bring products to market.

The CIMdata Report forecasts, “the PLM market to grow at a compound annual growth rate (CAGR) of 6.7% to \$56.3 billion” in 2021. The CIMdata Report estimates the CAE market which they refer to as Simulation and Analysis, as a subset of the PLM market to be approximately \$5.3 billion and \$5.7 billion in 2016 and 2017, respectively. The CIMdata Report expects the CAE market, “will be one of the more rapidly growing segments within the tools sector of PLM over the next five years, and forecasts that this market sector will exceed \$7.8 billion in 2021, with an 8.1% CAGR.”

We believe our strategy of making CAE technologies more accessible through simplified user interfaces with easy access to a broad range of applications and new cloud offerings will help us expand to more designers, engineers and architects at larger companies as well as at small and medium enterprises, thus driving a growth rate that exceeds the overall simulation and analysis, or the S&A, market. In addition, our recent offerings including software for math-based systems modeling, embedded systems design, and visual analytics, present an opportunity to expand our customer base.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Our addressable opportunity also includes software to facilitate and optimize the use of HPC infrastructure critical for running complex simulation models in industries ranging from manufacturing to weather prediction, bio-informatics and financial risk-management. According to the former high performance analyst team of IDC which is now owned by Hyperion, the market for high-end HPC servers is estimated to reach \$7 billion by 2020. We believe we are positioned attractively to capture spending related to workload management systems for these high-end servers.

We believe Altair's simulation and HPC expertise uniquely positions us to address a portion of spending in the massive and fast growing IoT and analytics market. IDC estimates that \$36 billion was spent on IoT platforms in 2015, and estimates the market to grow at a CAGR of 15% through 2020. IDC believes \$19.97 billion was spent on business intelligence and analytics software tools in 2016 and will grow at a CAGR of 12% through 2021. We have decades of experience helping our customers aggregate, analyze and visualize vast datasets created by large scale simulations, laboratory tests and in-field sensors. Through our analytics product suite and IoT platform, we are expanding our market reach to a broader set of customers, enabling them to collect and analyze data from an increasing number of connected products to support key business decisions.

Competitive strengths

We believe the following strengths will allow us to maintain and build our position in the growing market for engineering and simulation solutions:

Experienced management and culture of innovation

As a technology and product driven company, we believe Altair's culture of innovation creates engagement and loyalty among our employees and customers.

Our founder and leadership team are deeply experienced with a strong track record of both business and product innovation. Our diversified and global workforce is highly experienced and energetic. Altair's culture affords many opportunities for people to take on new roles and assignments, including significant mobility between locations around the world. Approximately 50% of our employees have been with Altair more than five years and approximately 50% of our managers have a tenure exceeding ten years. Many of our key executives have worked at the company for over 20 years. All of this translates into a significant competitive advantage through deeply rooted institutional knowledge about our market, our competitors' strengths and weaknesses, and engineering technology.

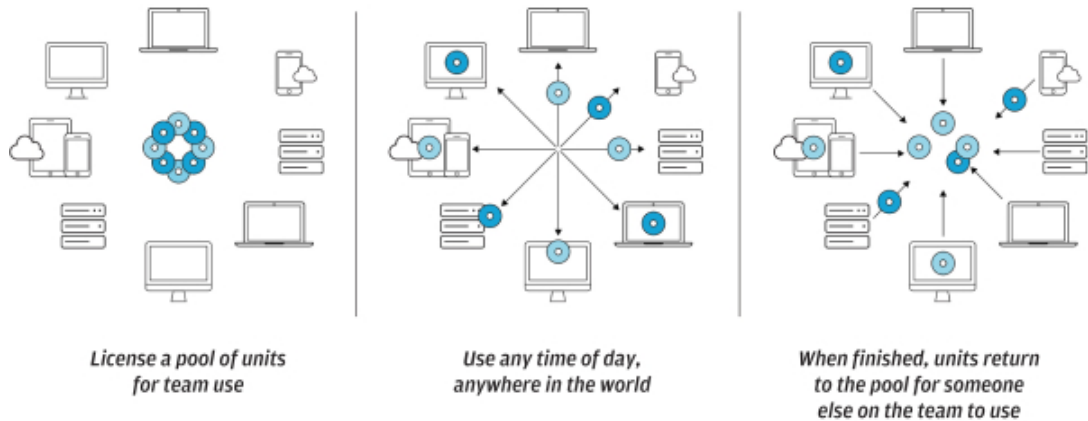
Units-based subscription licensing model

Altair pioneered a patented units-based subscription licensing model for software and other digital content which has transformed the way our customers use software, delivering strong retention rates and revenue growth.

Under a traditional software industry licensing model, customers license rights to use a particular application or a suite of applications, which are typically priced on a per user or central processing unit, or CPU, basis for a specified period of time. The Altair units-based subscription licensing model is different from the traditional licensing model because it allows customers to license a pool of units for their organizations, providing individual users flexible access to our entire portfolio of software applications along with over 150 partner

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

products. Under the Altair units-based subscription licensing model, customers acquire rights to use a “unit” for a specified period of time. Units are held in a pool and drawn when a user runs any of the applications available under our licensing model, either Altair applications or third-party partner applications. When the user closes the application, the units are returned to the pool and become available for use by all users. In 2017, customers accessed an average of 14.5 applications from our overall portfolio. Altair’s business model is particularly suited to CAE, as engineers and designers often require several different applications across multiple disciplines when developing products. This model lowers barriers to adoption, creates broad engagement, encourages users to work within our ecosystem and access applications they might otherwise have purchased from competitors, and increases revenue. This, in turn, helps drive our recurring software license rate which has been on average approximately 88% over the past five years. Each year approximately 60% of new revenue comes from expansion within existing customers.



Broad simulation portfolio and open interfaces

Altair’s broad portfolio of solutions as well as our open philosophy toward interfacing with other solutions, including competitors, positions us as a strong and strategic partner for customers.

We have assembled one of the broadest portfolios of simulation and optimization applications in the industry, spanning multiple domains and technology disciplines. Our software offers multidisciplinary capabilities in simulation, optimization and predictive analytics. We address the entire product lifecycle including concept design, engineering, manufacturing processes, and in-service operations.

Altair has historically offered broad and complete interfaces to most major third party CAD and CAE software on the market. Customers using a variety of platforms within their enterprises and throughout their supply chain have the ability to use Altair’s software as a central method to share models across multiple formats and between different simulation disciplines.

Our simulation solutions including modeling, visualization and solvers are noted in the market for their ability to handle large and complex models.

Altair’s software applications are highly industrialized and state-of-the-art and take thorough advantage of new compute architectures as they become available including new processors, storage systems, Graphics

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Processing Units, or GPUs, and on-premise and public high-performance cloud computing. In addition, we are developing and experimenting with solutions for HPC workload management and remote visualization which will allow the delivery of our own as well as other software via a cloud model.

Our software applications deliver high-performance and high scalability, including massive parallelization, which is increasingly important in the CAE market. This allows our customers to run complex high-fidelity simulations quickly and cost-effectively. As the market moves to drive design with numerical optimization and stochastic studies to improve quality, this requires models to be run multiple times, often with hundreds or thousands of changes to input variables. Compute performance and the ability to run larger models are critical to delivering timely and accurate results, and best-in-class designs.

Altair is a leader in integrating optimization technology across all our products including multi-disciplinary applications. We believe our ability to leverage HPC as the industry transitions to cloud computing also provides an important differentiator.

Deep technical engagement with customers

Our services including consulting, implementation services, training and support enhance our ability to drive grassroots demand for our applications.

Altair's software related services team is comprised of approximately 700 highly technical people globally and is differentiated by its significant size and the breadth of their real world experience. We believe our approach differentiates us from our competitors, as we focus on establishing a strong working relationship with the user community allowing us to offer guidance and expertise throughout their product creation process.

Altair has a philosophy of significant engagement with strategic customers on key development projects in our software product roadmap to ensure we deliver solutions which are innovative and comprehensive in addressing customer requirements.

We believe our close technical engagement with users, along with senior engineering relationships developed by our sales personnel, helps our ability to sell future products and services.

Growth strategies

We believe the following represent opportunities for Altair's growth in the engineering simulation market:

- Grow market share for solvers;
- Grow indirect business through our original equipment manufacturer, or OEM, and reseller networks;
- Establish leadership position in the expanding cloud HPC market;
- Expand client adoption for simulation-driven design offerings; and
- Target the emerging IoT market with platform, analytics and digital twin solutions.

We intend to pursue growth by leveraging these opportunities with the following growth strategies:

Increase software usage within our existing customer base

Our existing base of tens of thousands of users across approximately 5,000 customers worldwide provides a significant opportunity to increase revenues. Historically we have derived 60% of our new software revenue

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

from existing clients. The units-based subscription licensing model lowers barriers to usage, and provides customers the flexibility to initially deploy one or more of our products and later expand usage to more of our applications along with partner products. This land and expand strategy combined with our leadership position in modeling and visualization and our strong portfolio of solver products presents a clear path toward increased usage.

We believe PBScloud.io, complemented by our Runtime Design Automation, or Runtime, products, can revolutionize how customer organizations manage their on-premises HPC computing and off-premises cloud infrastructure. As companies transition more HPC workloads to the cloud, we believe PBScloud.io along with Runtime will help them to easily provision, manage and optimize these resources to maximize return on investment.

Invest in our direct sales force

Our direct sales force is highly technical and experienced, and consistently delivers solid growth and customer loyalty. Our subscription business model sometimes results in smaller new and expansion deal sizes than traditional paid-up licensing approaches. However, our model drives recurring software licenses and consistent growth, creates broad engagement, encourages users to work within our ecosystem, and increases revenue. This drives our recurring software license rate which has been on average approximately 88% over the past five years, and is powerful when competing for new business.

We plan to hire additional field and inside sales professionals in most major markets in which we operate, and to support these teams with continued brand and product marketing. We believe adding sales capacity in our direct sales force will grow revenue.

Expand through indirect sales channels

We believe there is growth and margin expansion opportunity through our OEM and reseller networks, and we plan to continue adding more partners across all product suites in the future.

solidThinking indirect channels are intended to deliver important new top line growth into middle-market companies not requiring the full suite of enterprise solutions. We plan to focus significant attention on growing our base of Carriots OEMs, implementation partners, and resellers by targeting specific vertical IoT markets. These relationships are important in creating opportunities for digital twin simulation related to the design of, and in-service predictive analytics of, connected products.

Continue investment in R&D

We organically developed over 15 products which came to market commercially in the last 25 years. These include HyperMesh, HyperView, HyperGraph, OptiStruct, Compose, Activate, Click2Form, HyperStudy, Inspire, MotionView, MotionSolve, Altair PBS Access, PBScloud.io, and Carriots Analytics. We believe this level of organic product creation sustained over such a long period of time is unique in the PLM market.

Analytics from our units-based subscription licensing model gives us insight into our customers' workflows and usage patterns. This helps guide our product development and R&D efforts. We pay attention to how problems are being solved by currently available solutions and look for opportunities to create new products where we can make significant improvements in quality or performance and deliver future revenue streams for our

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

company. We experiment with new methods and emerging technologies as they become available to learn and to find ways they can be relevant in advancing our products' technologies in the markets we serve.

We view our continued investment in R&D as essential to developing new products and technologies, as well as new features for existing products, to support the needs of our users.

Selectively pursue acquisitions and strategic investments

We plan to explore and pursue selective acquisitions and strategic investments to complement and strengthen our product offerings, expand the functionality of our solution, acquire technology or talent, or gain access to new customers and markets.

We acquired 22 companies or strategic technologies since 1996, including 11 since January 1, 2015. These acquisitions brought strategic IP assets, and over 200 developers with expertise in disciplines ranging from electronics, material science, crash and safety to industrial design and rendering. Products which are commercially available as a result of these acquisitions include Click2Extrude, PBS Professional, RADIOSS, Evolve, Acusolve, SimLab, Embed, Click2Cast, Multi-scale Designer, FEKO, Flux, WinProp, Thea Render, Modelliis, Carriots, ESAComp, nanoFluidX and ultraFluidX.

We believe our ability to integrate expert teams and new IP into our organization, and quickly bring acquired products to market with our business model, is unique in the PLM market.

Risks affecting us

Investing in our Class A common stock involves risk. You should carefully consider all of the information in this prospectus and in the documents incorporated by reference prior to investing in our Class A common stock. These risks are discussed more fully in the section titled "Risk Factors" beginning on page 18 immediately following this prospectus summary and in our Annual Report on Form 10-K for the year ended December 31, 2017, as updated by our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, which are incorporated by reference in this prospectus. These risks and uncertainties include, but are not limited to, the following:

- We have experienced significant revenue growth and we may fail to sustain that growth rate or may not grow in the future;
- If we cannot maintain our company culture of innovation, teamwork, and communication our business may be harmed;
- If our existing customers or users do not increase their usage of our software, or we do not add new customers, the growth of our business may be harmed;
- Our ability to acquire new customers is difficult to predict because our software sales cycle can be long;
- Reduced spending on product design and development activities by our customers may negatively affect our revenues;
- Our business largely depends on annual renewals of our software licenses;

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

- We believe our future success will depend, in part, on the growth in demand for our software by customers other than simulation engineering specialists and in additional industry verticals;
- We face significant competition, which may adversely affect our ability to add new customers, retain existing customers and grow our business;
- Because we derive a substantial portion of our revenues from customers in the automotive industry, we are susceptible to factors affecting this industry;
- Our quarterly results may fluctuate significantly and may not fully reflect the underlying performance of our business; and
- The dual class structure of our common stock has the effect of concentrating voting control with certain stockholders who hold shares of our Class B common stock, including our founders, certain of our directors and executive officers and affiliates, who will hold in the aggregate % of the voting power of our capital stock following the completion of this offering. This will limit or preclude your ability to influence corporate matters, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval. Upon the completion of this offering, our executive officers, directors and current beneficial owners of 5% or more of our Class A common stock, together with their respective affiliates, will beneficially own, in the aggregate, approximately % of our outstanding common stock, assuming no exercise of the underwriters' option to purchase additional shares of our common stock in this offering.

Corporate history and information

We were incorporated initially in Michigan in 1985 and reincorporated in Delaware in connection with our initial public offering. Our principal executive offices are located at 1820 E. Big Beaver Road, Troy, Michigan 48083. On April 3, 2017, we completed a recapitalization of our capital stock by filing a certificate of amendment to our articles of incorporation with the State of Michigan pursuant to which: (i) each share of our Class A voting common stock, or our old Class A shares, automatically converted into one share of new Class B voting common stock entitled to ten votes per share; and (ii) each share of our Class B non-voting common stock, or our old Class B shares, automatically converted into one share of new Class A voting common stock entitled to one vote per share, in each case, without any further action on the part of the holders thereof. We refer to this transaction as our "Recapitalization."

In November 2017, we completed our initial public offering, in which we sold 9,865,004 shares of Class A common stock, and certain stockholders sold 3,934,996 shares of Class A common stock, at a public offering price of \$13.00 per share. We received net proceeds of \$114.4 million after deducting underwriting discounts and offering expenses. Our Class A common stock began trading on the NASDAQ Global Select Market on November 1, 2017.

Our website address is www.altair.com. Information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase shares of our Class A common stock.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Unless the context otherwise requires, the terms “Altair,” “the Company,” “we,” “us” and “our” in this prospectus refers to Altair Engineering Inc. and its subsidiaries. The Altair design logo and the marks “OptiStruct,” “RADIOSS,” “AcuSolve,” “FEKO,” “Flux,” “WinProp,” “Multiscale Designer,” “HyperStudy,” “HyperMesh,” “HyperView,” “SimLab,” “HyperCrash,” “HyperGraph,” “Inspire,” “Evolve,” “Thea Render,” “Click2Cast,” “Click2Extrude,” “Click2Form,” “Carriots,” “Carriots Analytics,” “Compose,” “Activate,” “Embed,” “PBS Professional,” “PBScloud.io,” “MotionView,” “MotionSolve,” “Altair PBS Access” and our other registered or common law trade names, trademarks or service marks appearing in this prospectus are our property. This prospectus contains additional trade names, trademarks and service marks of other companies that are the property of their respective owners. We do not intend our use or display of other companies’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by these other companies.

References to the “selling stockholders” refer to the selling stockholders named in this prospectus.

Implications of being an emerging growth company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, as amended, or the JOBS Act. An emerging growth company may take advantage of relief from certain reporting requirements and other burdens that are otherwise applicable generally to public companies. These provisions include:

- reduced obligations with respect to financial data, including presenting only two years of audited financial statements and only two years of selected financial data;
- an exemption from compliance with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, or SOX;
- reduced disclosure about our executive compensation arrangements;
- an exemption from the requirements to obtain a nonbinding advisory vote on executive compensation or stockholder approval of any golden parachute arrangements; and
- extended transition period for complying with new and revised accounting standards that have different effective dates for public and private companies until the earlier of the date we (i) are no longer an emerging growth company, or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act.

Emerging growth companies may take advantage of these provisions for up to five years after their initial public offerings or such earlier time that they no longer qualify as an emerging growth company. We would cease to be an emerging growth company if we have more than \$1.07 billion in annual revenues, have more than \$700 million in market value of our capital stock held by non-affiliates or issue more than \$1.0 billion of non-convertible debt over a three-year period.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

The offering

Class A common stock offered by us	shares
Class A common stock offered by the selling stockholders	shares
Overallotment option offered by us	shares
Class A common stock to be outstanding after this offering	shares (shares, if the underwriters exercise their option to purchase additional shares in full)
Class B common stock to be outstanding after this offering	shares
Total Class A and Class B common stock to be outstanding after this offering	shares (shares, if the underwriters exercise their option to purchase additional shares in full)

Use of proceeds We estimate that the net proceeds from our sale of shares of Class A common stock in this offering at an assumed public offering price of \$ per share, the last reported sale price of our common stock on the NASDAQ Global Select Market on May , 2018, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately \$ million, or \$ million if the underwriters' overallotment option is exercised in full.

We intend to use the net proceeds we receive from this offering for general corporate purposes, including real estate development, working capital, sales and marketing activities, general and administrative matters, capital expenditures, and acquisitions of, or investments in, technologies, solutions or businesses.

We will not receive any proceeds from the sale of shares of our Class A common stock by the selling stockholders.

For a more complete description of our intended use of proceeds from this offering, see the section titled "Use of proceeds."

NASDAQ symbol "ALTR"

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Voting Rights

Shares of our Class A common stock are entitled to one vote per share. Shares of our Class B common stock are entitled to ten votes per share. Holders of our Class A common stock and Class B common stock will generally vote together as a single class, unless otherwise required by law or by our certificate of incorporation. The holders of our outstanding Class B common stock will hold approximately % of the voting power of our outstanding capital stock following this offering and will have the ability to control the outcome of matters submitted to our stockholders for approval, including the election of our directors and the approval of any change in control transaction. See the sections entitled "Principal and selling stockholders" and "Description of capital stock" for additional information.

The total number of shares of our common stock to be outstanding following this offering is based on 27,357,012 shares of our Class A common stock and 36,507,676 shares of our Class B common stock, outstanding as of March 31, 2018, and excludes:

- 8,104,971 shares of our Class A common stock reserved for future equity awards under our 2017 Equity Incentive Plan, or our 2017 Plan, including shares subject to restricted stock units awards, or RSUs, that we plan to issue in early 2019 to senior executives, sales team and other designated employees based upon a combination of factors, including individual and corporate performance related to fiscal 2018 (based upon current expectations, potential dilution is expected to be below 1% for this future award of RSUs) ;
- 6,072,464 shares of our Class A common stock issuable upon exercise of stock options outstanding as of March 31, 2018, with an exercise price of \$ 0.000025, under our 2001 Non-Qualified Stock Option Plan, or our 2001 NQSO Plan;
- 684,780 shares of our Class A common stock issuable upon exercise of stock options outstanding as of March 31, 2018, with a weighted average exercise price of \$0.68, under our 2001 Incentive and Non-Qualified Stock Option Plan, or 2001 ISO and NQSO Plan (other than the stock options to be exercised by certain of the selling stockholders in connection with this offering, as set forth elsewhere in this prospectus);
- 2,119,792 shares of our Class A common stock issuable upon exercise of stock options outstanding as of March 31, 2018, with a weighted average exercise price of \$3.76, under our 2012 Plan;
- 58,295 shares of our Class A common stock issuable upon the vesting and settlement of RSUs outstanding as of March 31, 2018 under our 2017 Plan; and
- any automatic increases in the number of shares of our Class A common stock reserved for future issuance under our 2017 Plan.

Except as otherwise indicated, all information in this prospectus assumes:

- no exercise or cancellations of outstanding stock options and no settlement of restricted stock units after March 31, 2018 (except for the shares of our common stock to be issued upon the exercise of options by some of the selling stockholders and sold in this offering, as disclosed elsewhere in this prospectus); and
- no exercise by the underwriters of their option to purchase up to an additional _____ shares of our Class A common stock.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Summary historical consolidated financial and other data

The following tables summarize our historical consolidated financial data. We have derived the historical consolidated statements of operations data for the years ended December 31, 2015, 2016, and 2017, and the historical consolidated balance sheet data as of March 31, 2018, from our audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, which is incorporated by reference in this prospectus. The consolidated statement of operations data for the three months ended March 31, 2017 and 2018, and the consolidated balance sheet data as of March 31, 2018, are derived from our unaudited consolidated financial statements included in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, which is incorporated by reference in this prospectus. The following summary consolidated financial data should be read in conjunction with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2017 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, which are incorporated by reference in this prospectus, and our consolidated financial statements and related notes incorporated by reference in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in the future.

(in thousands, except share data)	Years ended December 31,			Three months ended March 31,	
	2015	2016	2017	2017	2018
Consolidated statements of operations data:					
Revenue:					
Software	\$205,567	\$223,818	\$244,817	\$54,097	\$68,143
Software related services	37,294	35,770	35,397	8,971	9,473
Total software	242,861	259,588	280,214	63,068	77,616
Client engineering services	45,075	47,702	46,510	12,229	12,080
Other	6,193	5,950	6,609	1,585	2,035
Total revenue	294,129	313,240	333,333	76,882	91,731
Cost of revenue:					
Software	27,406	31,962	36,360	8,904	10,922
Software related services	30,079	27,653	26,888	6,659	6,709
Total software	57,485	59,615	63,248	15,563	17,631
Client engineering services	36,081	38,106	38,121	10,141	10,200
Other	5,642	4,879	5,212	1,050	1,211
Total cost of revenue	99,208	102,600	106,591	26,754	29,042
Gross profit	194,921	210,640	226,742	50,128	62,689

(continued)

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

(in thousands, except share data)	Years ended December 31,			Three months ended March 31,	
	2015	2016	2017	2017	2018
Operating expenses:					
Research and development	62,777	71,325	93,234	18,770	22,703
Sales and marketing	63,080	66,086	79,958	16,910	18,977
General and administrative	54,069	57,202	87,979	16,089	16,990
Amortization of intangible assets	2,624	3,322	5,448	943	1,940
Other operating income	(2,576)	(2,742)	(6,620)	(594)	(2,191)
Total operating expense	179,974	195,193	259,999	52,118	58,419
Operating income (loss)	14,947	15,447	(33,257)	(1,990)	4,270
Interest expense	2,416	2,265	2,160	611	16
Other expense (income), net	782	(520)	994	359	(900)
Income (loss) before income taxes	11,749	13,702	(36,411)	(2,960)	5,154
Income tax expense (benefit)	818	3,539	62,996	(772)	1,234
Net income (loss)	\$ 10,931	\$ 10,163	\$ (99,407)	\$ (2,188)	\$ 3,920
Net income (loss) per share attributable to common stockholders, basic	\$ 0.23	\$ 0.21	\$ (1.89)	\$ (0.04)	\$ 0.06
Net income (loss) per share attributable to common stockholders, diluted	\$ 0.19	\$ 0.18	\$ (1.89)	\$ (0.04)	\$ 0.05
Weighted average number of shares used in computing net income (loss) per share, basic	46,609	48,852	52,466	50,132	63,638
Weighted average number of shares used in computing net income (loss) per share, diluted	58,709	57,856	52,466	50,132	72,390

(in thousands)	As of March 31, 2018	
	Actual	As adjusted(1)(2)
Consolidated balance sheet data:		
Cash and cash equivalents	\$ 63,196	\$
Working capital	(51,036)	
Total assets	310,822	
Deferred revenue, current and non-current	162,624	
Debt	820	
Total stockholders' equity	65,125	

(1) The as adjusted column in the consolidated balance sheet data table above reflects the receipt of (i) \$ million in net proceeds from our sale of shares of common stock in this offering at an assumed public offering price of \$ per share, the last reported sale price of our common stock on the NASDAQ Global Select Market on May , 2018, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us and (ii) \$ in aggregate net proceeds received by us in connection with the exercise of options to purchase an aggregate of shares of our common stock by certain of the selling stockholders in order to sell those shares in this offering.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

- (2) Each \$1.00 increase or decrease in the assumed public offering price of \$ _____ per share, the last reported sale price of our common stock on the NASDAQ Global Select Market on May _____, 2018, would increase or decrease, as applicable, the as adjusted amount of each of cash and cash equivalents, working capital, total assets, and total stockholders' equity by \$ _____ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions from this offering. Each 1,000,000 share increase or decrease in the number of shares offered by us would increase or decrease the as adjusted amount of each of cash and cash equivalents, working capital, total assets, and total stockholders' equity by approximately \$ _____ million, assuming that the assumed offering price of \$ _____ remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Risk factors

Investing in our Class A common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, as well as those set forth under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017, as updated by our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, which are incorporated by reference in this prospectus. Our business, operating results, financial condition or prospects could be materially and adversely affected by any of these risks and uncertainties. In that case, the trading price of our Class A common stock could decline and you might lose all or part of your investment. In addition, the risks and uncertainties discussed below and in the documents incorporated by reference are not the only ones we face. Our business, operating results, financial condition or prospects could also be harmed by risks and uncertainties not currently known to us or that we currently do not believe are material, and these risks and uncertainties could result in a complete loss of your investment. In assessing the risks and uncertainties described below, you should also refer to the other information contained in this prospectus (as supplemented or amended) and the documents incorporated by reference in this prospectus, including our consolidated financial statements and the related notes thereto, before making a decision to invest in our Class A common stock.

Risks related to this offering and ownership of our Class A common stock

Our management has broad discretion in the use of the net proceeds from this offering, and our use of the net proceeds may not enhance our operating results or the price of our Class A common stock.

We intend to use the net proceeds to us from this offering for general corporate purposes, including working capital, sales and marketing activities, general and administrative matters, real estate development, including developing and building an addition adjacent to our corporate headquarters facilities, and capital expenditures. We may also use a portion of the net proceeds for the acquisition of, or investment in, technologies, solutions or businesses that complement our business. While we do not have agreements or binding commitments for any specific acquisitions at this time, we continually evaluate potential acquisition candidates to enhance our product offerings. Accordingly, our management will have considerable discretion over the specific use of the net proceeds that we receive in this offering and might not be able to obtain a significant return, if any, on investment of these net proceeds. You will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Investors in this offering will need to rely upon the judgment of our management with respect to the use of proceeds. Until the net proceeds are used, they may be placed in investments that do not produce significant income, may be held in demand deposit accounts, or in investments intended to be highly liquid that may nevertheless lose value. If we do not use the net proceeds that we receive in this offering effectively, our business and prospects could be harmed, and the market price of our Class A common stock could decline.

As a new investor, you will experience immediate and substantial dilution in the book value of the shares that you purchase in this offering.

The assumed public offering price is substantially higher than the net tangible book value per share of our Class A common stock immediately following this offering based on the total value of our tangible assets less our total liabilities. Therefore, if you purchase shares of our Class A common stock in this offering, at the assumed public offering price of \$ per share, the last reported sale price of our Class A common stock on the NASDAQ Global Select Market on May , 2018, you will experience immediate dilution of \$ per share, the difference between the price per share you pay for our Class A common stock and our net tangible book

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

value per share as of March 31, 2018, after giving effect to the issuance of shares of our common stock in this offering. See the section titled "Dilution" for more information.

Our Class A common stock has only recently become publicly traded, and the market price of our Class A common stock may be volatile.

The market price of our Class A common stock may fluctuate substantially depending on a number of factors, many of which are beyond our control and may not be related to our operating performance. These fluctuations could cause you to lose all or part of your investment in our Class A common stock, since you might not be able to sell your shares at or above the price you paid for our Class A common stock. Factors that could cause fluctuations in the market price of our Class A common stock include the following:

- price and volume fluctuations in the overall stock market from time to time, including as a result of trends in the economy as a whole;
- volatility in the market prices and trading volumes of technology stocks;
- changes in operating performance and stock market valuations of other technology companies generally, or those in our industry in particular;
- the expiration of market stand-off or contractual lock-up agreements and sales of shares of our Class A common stock by us or our stockholders;
- the volume of shares of our Class A common stock available for public sale;
- additional shares of our Class A common stock being sold into the market by our existing stockholders, or the anticipation of such sales, including sales of our Class A common stock upon exercise of outstanding options or upon conversion of our Class B common stock into shares of Class A common stock;
- failure of financial analysts to maintain coverage of us, changes in financial estimates by any analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- the financial projections we may provide to the public, any changes in these projections or our failure to meet these projections;
- announcements by us or our competitors of new software or new or terminated significant contracts, commercial relationships or capital commitments;
- public analyst or investor reaction to our press releases, other public announcements and filings with the SEC;
- rumors and market speculation involving us or other companies in our industry;
- actual or anticipated changes or fluctuations in our operating results;
- actual or anticipated developments in our business, our customers' businesses, or our competitors' businesses or the competitive landscape generally;
- litigation involving us, our industry or both, or investigations by regulators into our operations or those of our competitors;
- developments or disputes concerning our intellectual property or our solutions, or third party proprietary rights;

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

- announced or completed acquisitions of businesses or technologies by us or our competitors;
- new laws or regulations or new interpretations of existing laws or regulations applicable to our business;
- changes in accounting standards, policies, guidelines, interpretations or principles;
- any major changes in our management or our board of directors;
- general economic conditions and slow or negative growth of our markets; and
- other events or factors, including those resulting from war, incidents of terrorism or responses to these events.

In addition, the stock market in general, and the market for technology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors may affect the market price of our Class A common stock, regardless of our actual operating performance. In the past, following periods of volatility in the overall market and the market prices of a particular company's securities, securities class action litigation has often been instituted against that company. We may become the target of this type of litigation in the future. Securities litigation, if instituted against us, could result in substantial costs and divert our management's attention and resources from our business.

Sales of substantial amounts of our Class A common stock could cause the market price of our common stock to decline and may dilute your voting power and your ownership interest in us.

Sales of a substantial number of shares of our Class A common stock after this offering, particularly sales by our directors, executive officers and significant stockholders could adversely affect the market price of our Class A common stock and may make it more difficult to sell Class A common stock at a time and price that you deem appropriate. Based on the total number of outstanding shares of our common stock as of March 31, 2018, upon completion of this offering, we will have an aggregate of _____ shares of Class A common stock and _____ shares of Class B common stock outstanding, assuming no exercise of our outstanding stock options or settlement of restricted stock units after March 31, 2018 and assuming the underwriters do not exercise their option to purchase additional shares.

All of the shares of Class A common stock sold in this offering will be freely tradable without restrictions or further registration under the Securities Act of 1933, as amended, or the Securities Act, except for any shares held by our affiliates as defined in Rule 144 under the Securities Act. Shares held by directors, executive officers and other affiliates will be subject to volume limitations under Rule 144 under the Securities Act and various vesting agreements.

In addition, as of March 31, 2018, there were 8,877,036 shares of Class A common stock subject to outstanding options and 58,295 shares of Class A common stock to be issued upon the vesting and settlement of outstanding RSUs. We have registered an aggregate of 17,845,247 shares of Class A common stock issuable (i) upon exercise of outstanding options, (ii) upon the vesting and settlement of outstanding RSUs and (iii) upon exercise or settlement of any options or other equity incentives we may grant in the future for public resale under the Securities Act. Accordingly, these shares may be freely sold in the public market upon issuance as permitted by any applicable vesting requirements, subject to the lock-up agreements described below and compliance with applicable securities laws.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

In connection with this offering, we, the selling stockholders and our directors and executive officers have agreed with J.P. Morgan Securities LLC and RBC Capital Markets, LLC on behalf of the underwriters in this offering, that for 90 days after the date of this prospectus (in the case of us and the selling stockholders) or 60 days after the date of this prospectus (in the case of our directors and executive officers who are not selling stockholders), subject to certain exceptions, we and they will not, directly or indirectly, dispose of any of our common stock or securities convertible into or exercisable or exchangeable for our common stock. See the section entitled “Shares eligible for future sale” for more information.

Sales of a substantial number of such shares upon expiration of the lock-up agreements, or the perception that such sales may occur, or early release of these agreements, could cause our market price to fall or make it more difficult for you to sell your Class A common stock at a time and price that you deem appropriate.

We may also issue shares of our Class A common stock or securities convertible into shares of our Class A common stock from time to time in connection with a financing, acquisition, investment, our employee incentive compensation plan or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and cause the market price of our Class A common stock to decline.

The dual class structure of our common stock has the effect of concentrating voting control with certain stockholders who hold shares of our Class B common stock, including our founders, certain of our directors and executive officers and affiliates, who will hold in the aggregate % of the voting power of our capital stock following the completion of this offering. This will limit or preclude your ability to influence corporate matters, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval.

Our Class B common stock has ten votes per share, and our Class A common stock, which is the common stock we are offering pursuant to this prospectus, has one vote per share. Following this offering, our Class B stockholders, including our founders, certain of our directors and executive officers, and affiliates, will hold, in the aggregate % of the voting power of our capital stock. The ten-to-one voting ratio between our Class B and Class A common stock, results in the holders of our Class B common stock collectively controlling a majority of the combined voting power of our common stock and therefore being able to control all matters submitted to our stockholders for approval until 2029, or upon the occurrence of a triggering event at which time all shares of our Class B common stock will automatically convert into shares of our Class A common stock, or on an earlier date, as set forth in our certificate of incorporation.

This concentrated control will limit or preclude your ability to influence corporate matters for the foreseeable future, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval. In addition, this may prevent or discourage unsolicited acquisition proposals or offers for our capital stock that you may feel are in your best interest as one of our stockholders.

Future transfers by holders of our Class B common stock will generally result in those shares converting to Class A common stock, subject to the specific exceptions set forth in our certificate of incorporation, such as certain transfers effected for estate planning purposes and between or among our founders. The conversion of Class B common stock to Class A common stock will have the effect, over time, of increasing the relative voting power of those holders of Class B common stock who retain their shares in the long-term. For a description of the dual class structure, see the section entitled “Description of capital stock—Anti-takeover effects of Delaware law and our certificate of incorporation and bylaws.”

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Special note regarding forward looking statements

This prospectus and the documents incorporated by reference in this prospectus, particularly in the sections titled “Prospectus Summary” and “Risk Factors” in this prospectus and the sections titled “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business” in our Annual Report on Form 10-K for the year ended December 31, 2017 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, strategy and plans, market size and opportunity, competitive position, industry environment, potential growth opportunities and our expectations for future operations, are forward-looking-statements. The words “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “design,” “intend,” “expect,” “could,” “plan,” “potential,” “predict,” “seek,” “should,” “would” or the negative version of these words and similar expressions are intended to identify forward-looking statements. We have based these forward-looking statements on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, strategy, short- and long-term business operations and objectives, and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions described under the section titled “Risk Factors” in this prospectus and in our Annual Report on Form 10-K for the year ended December 31, 2017, as updated by our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, which are incorporated by reference in this prospectus, and elsewhere in this prospectus and in the documents incorporated by reference in this prospectus, regarding, among other things:

- our ability to acquire new customers because of the difficulty in predicting our software sales cycles;
- reduced spending on product design and development activities by our customers;
- our dependence on annual renewals of our software licenses;
- our ability to maintain or protect our intellectual property;
- our ability to retain key executive members;
- our ability to internally develop new inventions and intellectual property;
- our ability to successfully integrate and realize the benefits of our past or future strategic acquisitions or investments;
- demand for our software by customers other than simulation engineering specialists and in additional industry verticals;
- acceptance of our business model by investors;
- our susceptibility to factors affecting the automotive industry where we derive a substantial portion of our revenues;
- the accuracy of our estimates regarding expenses and capital requirements; and
- the significant quarterly fluctuations of our results.

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Pursuant to 17 C.F.R. Section 200.83**

These risks are not exhaustive. Other sections of this prospectus and the documents incorporated by reference in this prospectus may include additional factors that could adversely impact our business and financial performance. New risk factors emerge from time to time and it is not possible for our management to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, we undertake no obligation to publicly update any forward-looking statements for any reason.

You should read this prospectus, the documents incorporated by reference in this prospectus and the documents that we have filed as exhibits to the registration statement on Form S-1, of which this prospectus is a part, that we have filed with the SEC with the understanding that our actual future results, levels of activity, performance and achievements may be materially different from what we expect.

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Pursuant to 17 C.F.R. Section 200.83**

Market, industry and other data

We obtained the industry, market and competitive position data used throughout this prospectus from our own internal estimates and research, as well as from industry and general publications, in addition to research, surveys and studies conducted by third parties. Internal estimates are derived from publicly-available information released by industry analysts and third party sources, our internal research and our industry experience, and are based on assumptions made by us based on such data and our knowledge of our industry and market, which we believe to be reasonable. In addition, while we believe the industry, market and competitive position data included in this prospectus is reliable and is based on reasonable assumptions, such data involves risks and uncertainties and are subject to change based on various factors, including those discussed in the section entitled "Risk factors" in this prospectus and in the documents incorporated by reference in this prospectus. These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

Information based on estimates, forecasts, projections, market research, or similar methodologies is inherently subject to uncertainties, and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. In some cases, we do not expressly refer to the sources from which data is derived.

Certain information in this prospectus or in documents incorporated by reference in this prospectus is contained in independent industry publications. The source of these independent industry publications is provided below:

- CIMdata, Inc., *2017 Simulation and Analysis Market Analysis Report, 2017*.
- International Data Corporation, *IDC HPC Update at ISC 16, 2016*.
- International Data Corporation, *Market Forecast Report: Worldwide Business Analytics Software Forecast, 2017*.
- International Data Corporation, *Market Forecast Report: Worldwide Internet of Things Forecast Update, 2016-2020, 2016*.
- *The Gartner Report referenced herein (the "Gartner Report") represents research opinions or viewpoints published, as part of a syndicated subscription service, by Gartner, Inc. ("Gartner"), and are not representations of fact. Each Gartner Report speaks as of its original publication date (and not as of the date of this prospectus) and the opinions expressed in the Gartner Report are subject to change without notice. The Gartner Report consists of a Gartner, Inc., *Press Release dated February 7, 2017: "Gartner Says 8.4 Billion Connected 'Things' Will Be in Use in 2017, Up 31 Percent from 2016."*

The independent publications described herein or in the documents incorporated by reference in this prospectus represent research opinions or viewpoints published and are not representations of fact. Each publication speaks as of its original publication date (and not as of the date of this prospectus) and are subject to change without notice.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Use of proceeds

We estimate that the net proceeds from our sale of _____ shares of Class A common stock in this offering at an assumed public offering price of \$ _____ per share, the last reported sale price of our common stock on the NASDAQ Global Select Market on May _____, 2018, after deducting estimated underwriting discounts and commissions and estimated offering expenses, will be approximately \$ _____ million, or \$ _____ million if the underwriters' option to purchase additional shares is exercised in full. A \$1.00 increase (decrease) in the assumed public offering price would increase (decrease) the net proceeds to us from this offering by \$ _____ million, assuming the number of shares offered by us, as set forth on the front cover of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions. We will not receive any proceeds from the sale of Class A common stock by the selling stockholders; however we will receive net proceeds of \$ _____ from certain selling stockholders upon the exercise of stock options in order to sell such shares in this offering.

We intend to use the net proceeds to us from this offering for general corporate purposes, including working capital, sales and marketing activities, general and administrative matters, real estate development, including developing and building an addition adjacent to our corporate headquarters facilities, and capital expenditures. We may also use a portion of the net proceeds for the acquisition of, or investment in, technologies, solutions or businesses that complement our business. We do not have any agreements or binding commitments for any such acquisitions or investments at this time.

We will have broad discretion over the uses of the net proceeds in this offering. Pending these uses, we may invest the net proceeds from this offering in short-term, investment-grade interest-bearing securities such as money market accounts, certificates of deposit, commercial paper and guaranteed obligations of the United States government.

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Pursuant to 17 C.F.R. Section 200.83**

Dividend policy

We have never declared or paid and do not anticipate declaring or paying, any cash dividends on our Class A common stock. We currently intend to retain all available funds and any future earnings for use in the operation of our business. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

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Pursuant to 17 C.F.R. Section 200.83**

Market price of common stock

Shares of our Class A common stock commenced trading on the NASDAQ Global Select Market under the symbol "ALTR" on November 1, 2017. Prior to that date, there was no public market for our Class A common stock. The following table summarizes the high and low sale prices of our common stock as reported by the NASDAQ Global Select Market:

	Low	High
Fiscal Year 2017		
Fourth Quarter (beginning November 1, 2017)	\$16.55	\$25.59
Fiscal Year 2018		
First Quarter	\$23.77	\$33.38
Second Quarter (through May 24, 2018)	\$27.75	\$37.19

On May 1, 2018, the last reported sale price of our Class A common stock on the NASDAQ Global Select Market was \$ 37.19 per share. As of March 31, 2018, there were approximately 465 registered stockholders of record of our Class A common stock and 5 registered stockholders of record of our Class B common stock. This figure does not reflect the beneficial ownership or shares held in nominee name.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Capitalization

The following table shows our cash and cash equivalents and our capitalization as of March 31, 2018 on:

- an actual basis; and
- an as adjusted basis to give effect to (i) the sale and issuance of _____ shares of our Class A common stock offered by us in this offering based on the assumed public offering price of \$ _____ per share, the last reported sale price of our Class A common stock on the NASDAQ Global Select Market on May _____, 2018, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and (ii) the issuance of _____ shares of our Class A common stock to certain selling stockholders upon the exercise of stock options in order to sell such shares in this offering, including net proceeds of \$ _____ received by us in connection with the exercise of such options.

You should read this table together with the sections of this prospectus titled “ Summary Historical Consolidated Financial and Other Data,” and “Description of Capital Stock” and the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our unaudited consolidated financial statements and related notes in our Quarterly Report on 10-Q for the quarter ended March 31, 2018, which is incorporated by reference in this prospectus.

(In thousands, except share and per share data)	As of March 31, 2018	
	Actual	As adjusted(1)
Cash and cash equivalents	\$ 63,196	\$ _____
Credit Agreement:		
Revolving credit facility(2)	\$ —	
Stockholders’ equity:		
Preferred stock, \$0.0001 par value per share: 45,000,000 shares authorized, no shares issued or outstanding, actual and as adjusted	—	
Class A common stock, \$0.0001 par value per share: 513,796,572 shares authorized, 27,357,012 shares issued and outstanding, actual; 513,796,572 shares authorized, _____ shares issued and outstanding, as adjusted	3	
Class B common stock, \$0.0001 par value per share: 41,203,428 shares authorized, 36,507,676 shares issued and outstanding, actual; 41,203,428 shares authorized, _____ shares issued and outstanding, as adjusted	4	
Additional paid-in capital	232,576	
Accumulated deficit	(162,579)	
Accumulated other comprehensive loss	(4,879)	
Total stockholders’ equity	65,125	_____
Total capitalization	\$ 65,125	\$ _____

- (1) The as adjusted information is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering determined at pricing. Each \$1.00 increase (decrease) in the assumed public offering price of \$ _____ per share, the last reported sale price on the NASDAQ Global Market Select on May _____, 2018, would increase (decrease) each of our as adjusted cash and cash equivalents, additional paid-in capital, total stockholders’ equity and total capitalization by approximately \$ _____ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions payable by us. We may also increase or decrease the number of shares we are offering. Each 1,000,000 share increase or decrease

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

in the number of shares offered by us would increase or decrease the as adjusted amount of each of cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization by approximately \$ million, assuming that the assumed offering price of \$ remains the same, and after deducting estimated underwriting discounts and commissions.

- (2) Our credit facility consists of an initial aggregate commitment amount of \$100.0 million, with a sublimit for the issuance of letters of credit of up to \$5.0 million and a sublimit for swingline loans of up to \$5.0 million, of which \$0 was outstanding as of March 31, 2018.

The total number of shares of our common stock to be outstanding set forth in the table above is based on 27,357,012 shares of our Class A common stock and 36,507,676 shares of our Class B common stock, outstanding as of March 31, 2018, and excludes:

- 8,104,971 shares of our Class A common stock reserved for future equity awards under our 2017 Equity Incentive Plan, or our 2017 Plan, including shares subject to restricted stock units awards, or RSUs, that we plan to issue in early 2019 to senior executives, sales team and other designated employees based upon a combination of factors, including individual and corporate performance related to fiscal 2018 (based upon current expectations, potential dilution is expected to be below 1% for this future award of RSUs);
- 6,072,464 shares of our Class A common stock issuable upon exercise of stock options outstanding as of March 31, 2018, with an exercise price of \$ 0.000025, under our 2001 NQSO Plan;
- 684,780 shares of our Class A common stock issuable upon exercise of stock options outstanding as of March 31, 2018, with a weighted average exercise price of \$0.68, under our 2001 ISO and NQSO Plan (other than the stock options to be exercised by certain of the selling stockholders in connection with this offering, as set forth elsewhere in this prospectus);
- 2,119,792 shares of our Class A common stock issuable upon exercise of stock options outstanding as of March 31, 2018, with a weighted average exercise price of \$3.76, under our 2012 Plan;
- 58,295 shares of our Class A common stock issuable upon the vesting and settlement of RSUs outstanding as of March 31, 2018 under our 2017 Plan; and
- any automatic increases in the number of shares of our Class A common stock reserved for future issuance under our 2017 Plan.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Dilution

If you invest in our Class A common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the public offering price per share of our Class A common stock and the as adjusted net tangible book value per share of our Class A common stock immediately after this offering.

Net tangible book value per share is determined by dividing our total tangible assets less our total liabilities by the number of shares of our common stock outstanding. Our historical net tangible book value as of March 31, 2018, was \$ million, or \$ per share. After giving effect to (i) the sale and issuance of shares of our Class A common stock offered by us in this offering based on the assumed public offering price of \$ per share, the last reported sale price of our common stock on the NASDAQ Global Select Market on May , 2018, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and (ii) the issuance of shares of our Class A common stock to certain selling stockholders upon the exercise of stock options in order to sell such shares in this offering, including net proceeds of \$ received by us in connection with the exercise of such options, our as adjusted net tangible book value as of March 31, 2018, would have been \$ million, or \$ per share. This represents an immediate increase in net tangible book value of \$ per share to our existing stockholders and an immediate dilution in net tangible book value of \$ per share to investors purchasing shares of our Class A common stock in this offering at the assumed public offering price.

The following table illustrates this dilution on a per share basis to new investors:

Assumed public offering price per share	\$
Net tangible book value per share as of March 31, 2018	\$
Increase in net tangible book value per share as of March 31, 2018	
As adjusted net tangible book value per share immediately after this offering	
Dilution per share to new investors in this offering	\$

A \$1.00 increase (decrease) in the assumed public offering price of \$ per share the last reported sale price of our Class A common stock on the NASDAQ Global Select Market on May , 2018, would increase (decrease) our as adjusted net tangible book value per share immediately after this offering by \$ per share and the dilution per share to new investors in this offering by \$ per share, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting underwriting discounts and commissions and estimated expenses payable by us. Similarly, each increase (decrease) of one million shares in the number of shares of Class A common stock offered by us would increase (decrease) our as adjusted net tangible book value per share immediately after this offering, by \$ per share and the dilution per share to new investors by \$ per share, assuming the assumed public offering price remains the same and after deducting underwriting discounts and commissions and estimated expenses payable by us

The total number of shares of our common stock to be outstanding set forth in the table above is based on 27,357,012 shares of our Class A common stock and 36,507,676 shares of our Class B common stock, outstanding as of March 31, 2018, and excludes:

- 8,104,971 shares of our Class A common stock reserved for future equity awards under our 2017 Equity Incentive Plan, or our 2017 Plan, including shares subject to restricted stock units awards, or RSUs, that we plan to issue in early 2019 to senior executives, sales team and other designated employees based upon a combination of factors, including individual and corporate performance related to fiscal 2018 (based upon current expectations, potential dilution is expected to be below 1% for this future award of RSUs);

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

- 6,072,464 shares of our Class A common stock issuable upon exercise of stock options outstanding as of March 31, 2018, with an exercise price of \$ 0.000025, under our 2001 NQSO Plan;
- 684,780 shares of our Class A common stock issuable upon exercise of stock options outstanding as of March 31, 2018, with a weighted average exercise price of \$0.68, under our 2001 ISO and NQSO Plan (other than the stock options to be exercised by certain of the selling stockholders in connection with this offering, as set forth elsewhere in this prospectus);
- 2,119,792 shares of our Class A common stock issuable upon exercise of stock options outstanding as of March 31, 2018, with a weighted average exercise price of \$3.76, under our 2012 Plan;
- 58,295 shares of our Class A common stock issuable upon the vesting and settlement of RSUs outstanding as of March 31, 2018 under our 2017 Plan; and
- any automatic increases in the number of shares of our Class A common stock reserved for future issuance under our 2017 Plan.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Principal and selling stockholders

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of May 15, 2018, which is referred to as the Beneficial Ownership Date, and as adjusted to reflect the sale of our Class A common stock offered by us and the selling stockholders in this offering assuming no and full exercise of the underwriters' over-allotment option to purchase additional shares from us, for:

- each person or group of affiliated persons known by us to be the beneficial owner of more than 5% of our common stock;
- each of our current directors;
- each of our named executive officers;
- all executive officers and directors as a group; and
- each of the selling stockholders.

The amounts and percentage of shares of common stock beneficially owned are reported on the basis of regulations of the SEC governing the determination of beneficial ownership of securities. Under the rules of the SEC, a person is deemed to be a "beneficial owner" of a security if that person has or shares "voting power," which includes the power to vote or to direct the voting of such security, or "investment power," which includes the power to dispose of or to direct the disposition of such security. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, we have deemed shares of our Class A common stock subject to options that are currently exercisable or exercisable within 60 days of May 15, 2018, and shares of our Class A common stock that are reserved for settlement of RSUs that are vested or will be vested within 60 days of May 15, 2018, to be outstanding and to be beneficially owned by the person holding the option for the purpose of computing the percentage ownership of that person but have not treated them as outstanding for the purpose of computing the percentage ownership of any other person.

The percentages reflect beneficial ownership immediately prior to and immediately after the completion of this offering as determined in accordance with Rule 13d-3 under the Exchange Act and are based on 29,049,457 shares of our Class A common stock and 35,846,152 shares of our Class B common stock outstanding as of the Beneficial Ownership Date. We have based percentage ownership of our common stock after this offering assuming no exercise of the underwriters' over-allotment option to purchase additional shares of Class A common stock from us on _____ shares of our common stock outstanding as of the Beneficial Ownership Date, assuming the sale of _____ shares of our Class A common stock by us and the selling stockholders in this offering (including the shares to be issued upon the exercise of options to purchase shares of our Class A common stock and sold in this offering). We have based percentage ownership of our common stock after this offering assuming full exercise of the underwriters' over-allotment option to purchase additional shares from us on _____ shares of common stock outstanding as of the Beneficial Ownership Date, assuming the sale of _____ shares of our Class A common stock by us and the selling stockholders in this offering (including the shares to be issued upon the exercise of options to purchase shares of our Class A common stock and sold in this offering).

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Except as noted below, the address for all beneficial owners in the table below is c/o Altair Engineering Inc. at 1820 E Big Beaver Road, Troy MI 48083.

Name of beneficial owner	Beneficial ownership of common stock prior to the offering					Beneficial ownership of common stock after the offering					
	Class A		Class B		% of Total voting power (pre-offering)	Class A shares being offered	Class A		Class B		% of Total voting power (post-offering)
	Shares	%	Shares	%			Shares	%	Shares	%	
5% Stock holders:											
George J. Christ(1)	—	—	13,770,732	38.42%	35.54%						
Mark E. Kistner(2)	661,524	*	2,000,000	5.58%	5.33%						
Entities affiliated with Bamco Inc.(3)	2,100,528	7.86%	—	—	*						
Entities affiliated with Neuberger Berman Group(4)	1,390,566	5.20%	—	—	*						
Named Executive Officers and Directors:											
James R. Scapa(5)	30,000	*	20,075,420	56.00%	51.81%						
Howard N. Morof(6)	712,849	2.42%	—	—	*						
Massimo Fariello(7)	403,524	1.39%	—	—	*						
Mary C. Boyce(8)	—	—	—	—	—						
James E. Brancheau(9)	1,263,168	4.35%	—	—	*						
Steve Earhart(10)	41,000	*	—	—	*						
Jan Kowal(11)	21,000	*	—	—	*						
Trace Harris(12)	11,000	*	—	—	*						
Richard Hart(13)	6,000	*	—	—	*						
All executive officers and directors as a group (17 individuals)(14)	4,435,748	14.45%	20,075,420	56.00%	52.73%	—					
Certain Selling Stockholders(15)(16)											

(*) Represents beneficial ownership of less than 1%

- (1) Consists of (i) 8,546,728 shares of Class B common stock held of record by George J. Christ and Deborah M. Christ, as trustees of the Christ Revocable Trust dated May 8, 2015, and (ii) 5,224,004 shares of Class B common stock held of record by GC Investments, LLC. Mr. Christ is the manager of GC Investments, LLC and has voting and investment power over the securities held by GC Investments, LLC.
- (2) Consists of 2,661,524 shares of Class B common stock held of record by Mark E. Kistner.
- (3) Based on Schedule 13G filed with the SEC on February 14, 2018. The address of the shareholder is 767 Fifth Avenue, 49th Floor, New York, NY 10153. BAMCO, Inc. ("BAMCO") and Baron Capital Management, Inc. ("BCM") are subsidiaries of Baron Capital Group, Inc. ("BCG") and Ronald Baron owns a controlling interest in BCG. The advisory clients of BAMCO and BCM have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, Altair's Class A common stock in their accounts. To the best of the filing persons' knowledge, no such person has such interest relating to more than 5% of the outstanding class of securities.
- (4) Based on Schedule 13G filed with the SEC on February 14, 2018. The address of the shareholder is 1290 Avenue of the Americas, New York, NY 10104. Neuberger Berman Group LLC and its affiliates may be deemed to be beneficial owners of securities for purposes of Exchange Act Rule 13d-3 because they or certain affiliated persons have shared power to retain, dispose of or vote the securities of unrelated clients. Neuberger Berman Group LLC or its affiliated persons do not, however, have any economic interest in the securities of those clients. The clients have the sole right to receive and the power to direct the receipt of dividends from or proceeds from the sale of such securities. No one client has an interest of more than 5% of Altair.
- (5) Consists of (i) 12,651,416 shares of Class B common stock held of record by Mr. Scapa as trustee of the James R. Scapa Declaration of Trust dated March 5, 1987, and (ii) 7,424,004 shares of Class B common stock held of record by JRS Investments, LLC. Mr. Scapa is the manager of JRS Investments, LLC and has voting and investment power over the securities held by JRS Investments, LLC. Includes 30,000 shares subject to options exercisable for Class A common stock within 60 days of the Beneficial Ownership Date. Excludes 90,000 shares subject to options for Class A common stock and 20,000 shares of Class A common stock subject to a restricted stock unit award which vest subject to time-based vesting conditions that will not be satisfied within 60 days of the Beneficial Ownership Date.
- (6) Consists of (i) 160,372 shares of Class A common stock held of record by Mr. Morof as trustee of the Howard N. Morof Revocable Trust dated August 7, 1992, (ii) 141,080 shares of Class A common stock held of record by Mr. Morof as trustee of the Howard N. Morof Irrevocable Grantor

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Trust dated September 11, 2017 and (iii) 404,591 shares subject to options exercisable for Class A common stock within 60 days of the Beneficial Ownership Date, 403,623 of which are vested as of such date and 968 of which vested on May 17, 2018. Excludes 31,537 options for Class A common stock, and 2,070 shares of Class A common stock subject to a restricted stock unit award, which vest subject to time-based vesting conditions that will not be satisfied within 60 days of the Beneficial Ownership Date.

- (7) Consists of (i) 332,000 shares of Class A common stock held of record by Advanced Studies Holding Future Srl, an Italian company, and (ii) 66,704 shares subject to options exercisable for Class A common stock within 60 days of the Beneficial Ownership Date, 65,753 of which are vested as of such date and 951 of which vested on May 17, 2018. Excludes 23,600 shares subject to options for Class A common stock, and 2,070 shares of Class A common stock subject to a restricted stock unit award, which vest subject to time-based vesting conditions that will not be satisfied within 60 days of the Beneficial Ownership Date.
- (8) Excludes 10,000 shares of Class A common stock subject to a restricted stock unit award, which vest subject to time-based vesting conditions that will not be satisfied within 60 days of the Beneficial Ownership Date.
- (9) Includes 3,168 shares subject to options exercisable for Class A common stock within 60 days of the Beneficial Ownership Date, all of which are vested as of such date.
- (10) Excludes 3,000 options for Class A common stock which vest subject to time-based vesting conditions that will not be satisfied within 60 days of the Beneficial Ownership Date.
- (11) Consists of 21,000 shares subject to options exercisable for Class A common stock within 60 days of the Beneficial Ownership Date all of which are vested as of such date. Excludes 3,000 options for Class A common stock which vest subject to time-based vesting conditions that will not be satisfied within 60 days of the Beneficial Ownership Date.
- (12) Consists of 11,000 shares subject to options exercisable for Class A common stock within 60 days of the Beneficial Ownership Date all of which are vested as of such date. Excludes 13,000 options for Class A common stock which vest subject to time-based vesting conditions that will not be satisfied within 60 days of the Beneficial Ownership Date.
- (13) Consists of 6,000 shares subject to options exercisable for Class A common stock within 60 days of the Beneficial Ownership Date, all of which are vested as of such date. Excludes 18,000 options for Class A common stock which vest subject to time-based vesting conditions that will not be satisfied within 60 days of the Beneficial Ownership Date.
- (14) Consists of (i) 2,781,664 shares of Class A common stock beneficially owned by our executive officers and directors, (ii) 20,075,420 shares of Class B common stock beneficially owned by our executive officers and directors, and (iii) 1,654,084 shares subject to options exercisable for Class A common stock within 60 days of the Beneficial Ownership Date. Excludes 340,127 shares subject to options exercisable for Class A common stock, and 49,665 shares of Class A common stock subject to restricted stock unit awards, which vest subject to time-based vesting conditions and that will not be satisfied within 60 days of the Beneficial Ownership Date.
- (15) Such selling stockholders are purchasing _____ shares of our common stock upon the exercise of options, which shares are being offered for sale pursuant to the registration statement of which this prospectus is part.
- (16) Represents shares of common stock held by _____ selling stockholders not listed above who, as a group, own less than 1% of the outstanding common stock prior to this offering. [] of these selling stockholders are current employees of the company.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Description of capital stock

General

The following is a summary of the rights of our Class A and Class B common stock and preferred stock and certain provisions of our certificate of incorporation and bylaws. This summary does not purport to be complete and is qualified in its entirety by the provisions of our certificate of incorporation and bylaws, copies of which are filed as exhibits to the registration statement of which this prospectus is a part.

Our authorized capital stock consists of 600,000,000 shares, with a par value of \$0.0001 per share, of which:

- 513,796,572 shares are designated as Class A common stock;
- 41,203,428 shares are designated as Class B common stock; and
- 45,000,000 shares are designated as preferred stock.

Our board of directors is authorized, without stockholder approval, except as required by the listing standards of the Nasdaq Global Select Market, to issue additional shares of our capital stock.

As of March 31, 2018, we had 27,357,012 shares of our Class A common stock and 36,507,676 shares of our Class B common outstanding, held by approximately 470 stockholders of record and no shares of preferred stock outstanding.

Class A and Class B common stock

Voting rights

Holders of our Class A common stock and Class B common stock have identical rights, provided however that, except as otherwise expressly provided in our certificate of incorporation or required by applicable law, on any matter that is submitted to a vote of our stockholders, holders of Class A common stock are entitled to one vote per share of Class A common stock and holders of Class B common stock are entitled to 10 votes per share of Class B common stock. Holders of shares of Class A common stock and Class B common stock vote together as a single class on all matters (including the election of directors) submitted to a vote of stockholders, unless otherwise required by Delaware law or our certificate of incorporation. Delaware law could require either holders of our Class A common stock or Class B common stock to vote separately as a single class in the following circumstances:

- if we were to seek to amend our certificate of incorporation to increase or decrease the par value of a class of our capital stock, then that class would be required to vote separately to approve the proposed amendment; and
- if we were to seek to amend our certificate of incorporation in a manner that alters or changes the powers, preferences or special rights of a class of our capital stock in a manner that affected its holders adversely, then that class would be required to vote separately to approve the proposed amendment.

Under our certificate of incorporation, we may not issue any shares of Class B common stock, other than those shares issuable upon exercise of options, warrants, or similar rights to acquire Class B common stock outstanding immediately prior to the filing of the certificate of incorporation with the Secretary of State of the

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Pursuant to 17 C.F.R. Section 200.83**

State of Delaware and in connection with stock dividends, unless that issuance is approved by the affirmative vote of the holders of a majority of the outstanding shares of Class A common stock and Class B common stock, each voting separately as a class.

We have not provided for cumulative voting for the election of directors in our certificate of incorporation. Our certificate of incorporation and bylaws provide for a classified board of directors consisting of three classes of approximately equal size, each class serving staggered three-year terms. Only one class will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms.

No preemptive or similar rights

Our classes of common stock are not entitled to preemptive rights and are not subject to conversion, redemption or sinking fund provisions.

Economic rights

Except as otherwise expressly provided in our certificate of incorporation or required by applicable law, shares of Class A common stock and Class B common stock have the same rights and privileges and rank equally, share ratably and are identical in all respects as to all matters, including, without limitation those described below.

Dividends and distributions

Subject to preferences that may apply to any shares of preferred stock outstanding at the time, the holders of Class A common stock and Class B common stock are entitled to share equally, identically and ratably, on a per share basis, with respect to any dividend or distribution of cash, property or shares of our capital stock paid or distributed by us, unless different treatment of the shares of each such class is approved by the affirmative vote of the holders of a majority of the outstanding shares of Class A common stock and Class B common stock, each voting separately as a class. In the event a dividend or distribution is paid in the form of shares of Class A common stock or Class B common stock or rights to acquire shares of such stock, the holders of Class A common stock shall receive Class A common stock, or rights to acquire Class A common stock, as the case may be, and the holders of Class B common stock shall receive Class B common stock, or rights to acquire Class B common stock, as the case may be.

Liquidation rights

Upon our liquidation, dissolution or winding-up, the holders of Class A common stock and Class B common stock are entitled to share equally, identically and ratably in all assets remaining after the payment of any liabilities and the liquidation preferences and any accrued or declared but unpaid dividends, if any, with respect to any outstanding preferred stock, unless different treatment of the shares of each class is approved by the affirmative vote of the holders of a majority of the outstanding shares of Class A common stock and Class B common stock, each voting separately as a class.

Change of control transactions

Upon (A) the closing of the sale, transfer or other disposition of all or substantially all of our assets, (B) the consummation of a merger, consolidation, business combination or share transfer which results in our voting securities outstanding immediately prior to the transaction (or the voting securities issued with respect to our voting securities outstanding immediately prior to the transaction) representing less than a majority of the combined voting power of our voting securities or the voting securities of the surviving or acquiring entity,

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

(C) the closing of the transfer (whether by merger, consolidation or otherwise), in one transaction or a series of related transactions, to a person or group of affiliated persons of securities of the Company if, after closing, the transferee person or group would hold 50% or more of our outstanding voting stock (or the outstanding voting stock of the surviving or acquiring entity), (D) any voluntary or involuntary recapitalization, liquidation, dissolution or winding-up, or (E) the issuance by us of voting securities representing more than 2% of our total voting power to a person who held 50% or less of our total voting power immediately prior to such transaction and who following such transaction holds more than 50% of our total voting power, the holders of Class A common stock and Class B common stock will be treated equally and identically with respect to shares of Class A common stock or Class B common stock owned by them, unless different treatment of the shares of each class is approved by the affirmative vote of the holders of a majority of the outstanding shares of Class A common stock and Class B common stock, each voting separately as a class.

Subdivisions and combinations

If we subdivide or combine in any manner outstanding shares of Class A common stock or Class B common stock, the outstanding shares of the other class will be subdivided or combined in the same manner, unless different treatment of the shares of each class is approved by the affirmative vote of the holders of a majority of the outstanding shares of Class A common stock and Class B common stock, each voting as a separate class.

Conversion

Each share of our Class B common stock is automatically convertible into one share of our Class A common stock pursuant to the terms of our certificate of incorporation upon the occurrence of certain events. With respect to all beneficial owners, as defined in our certificate of incorporation, of Class B common stock, each share of Class B common stock will convert automatically into one share of Class A common stock upon (i) the date specified by affirmative vote of the holders of at least 66-2/3% of the outstanding shares of Class B common stock, (ii) the executive holder, as defined in our certificate of incorporation, is neither (x) an executive officer of the company nor (y) a director of the company, (iii) the date on which the executive has beneficial ownership of less than 10% of the capital stock of the company, or (iv) the 12 year anniversary of the date of filing of our certificate of incorporation in connection with our initial public offering.

With respect to each individual beneficial owner of Class B common stock, each share of Class B common stock held by a beneficial owner will convert automatically into one share of Class A common stock (i) at any time at the option of such owner, (ii) upon any transfer, whether or not for value, except for certain transfers described in our certificate of incorporation, including, without limitation, transfers from a founder, as defined in our certificate, to another founder, or certain permitted transferees, or (iii) in the event any beneficial owner owns shares of Class B common stock constituting less than 3% of the outstanding shares of Class B common stock.

Each share of Class B common stock held by all beneficial owners of Class B common stock, except the executive holder, will convert automatically into one share of Class A common stock in the event the key holders, as defined in our certificate of incorporation, beneficially own, in the aggregate, more shares of Class B common stock than the executive holder in which event the only holder of Class B common stock will be the executive holder.

In addition, upon the death or incapacity of a beneficial owner of Class B common stock, other than the executive holder, each share of Class B common stock held by such beneficial owner will convert automatically into one share of Class A common stock, immediately upon such death or incapacity, except, with respect to the key holders, such automatic conversion will occur on the date which is nine (9) months after the date of such

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

death or incapacity. Upon the death or incapacity of the executive holder, each share of Class B common stock held by all beneficial owners of Class B common stock will convert automatically into one share of Class A common stock on the date which is nine (9) months after the date of such death or incapacity.

Preferred stock

Pursuant to our certificate of incorporation, our board of directors will have the authority, without further action by the stockholders, to issue from time to time up to 45,000,000 shares of preferred stock in one or more series. Our board of directors may designate the rights, preferences, privileges and restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, redemption rights, liquidation preference, sinking fund terms and the number of shares constituting any series or the designation of any series. The issuance of preferred stock could have the effect of restricting dividends on the Class A and Class B common stock, diluting the voting power of the Class A and Class B common stock, impairing the liquidation rights of the Class A and Class B common stock or delaying, deterring or preventing a change in control. Such issuance could have the effect of decreasing the market price of the Class A and Class B common stock. We currently have no plans to issue any shares of preferred stock.

Option and restricted stock unit awards

Our compensation committee has general administrative authority with respect to our equity compensation plans. Although stock options granted under our 2001 NQSO Plan, our 2001 ISO and NQSO Plan and 2012 Plan remain outstanding, no options or other awards are available for issuance under those plans. Instead, any subsequent grants of RSU's, stock options or other awards will be made under our 2017 Plan.

As of March 31, 2018, under our 2017 Plan, we had outstanding RSUs covering an aggregate of 58,295 shares of our Class A common stock and 8,104,971 shares of our Class A common stock were available for future grant. The number of shares available for issuance under our 2017 Plan will also include an annual increase on the first day of each fiscal year in an amount not to exceed three percent of the outstanding shares of all classes of common stock as of the last day of our immediately preceding fiscal year. We plan to issue RSU awards in early 2019 to senior executives, sales team members and other designated employees based upon a combination of factors, including individual and corporate performance related to fiscal 2018. The determination of the actual number of the individual and aggregate number of RSUs to be awarded and subject to a four-year vesting period is expected to be finalized in early 2019, and remains subject to compensation committee approval at that time. Based upon current expectations, potential dilution is expected to be below 1% for this future award of RSUs. This program is targeted to specific groups of employees identified above. The anticipated dilution from that program does not include RSU's and stock options that may be granted to our chief executive officer, to employees of entities we may acquire, as retention grants to existing employees or as grants to new employees.

As of March 31, 2018:

- under our 2001 NQSO Plan, we had outstanding options to purchase an aggregate of 6,072,464 shares of our Class A common stock with an exercise price of \$0.000025 per share;
- under our 2001 ISO and NQSO Plan, we had outstanding options to purchase an aggregate of 684,780 shares of our Class A common stock with an exercise price of \$0.68 per share; and
- under our 2012 Plan, we had outstanding options to purchase an aggregate of 2,119,792 shares of our Class A common stock with an exercise price of \$3.76 per share.

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Our board of directors generally has the power to amend or terminate our equity compensation plans, subject to limitations on the extent to which previously granted awards may be impacted. In the event of a change of control, our board of directors has authority, that varies from plan-to-plan, to provide for limited or full vesting. With respect to awards granted under the 2017 Plan, in the event of a change of control, each outstanding award will be treated as the administrator determines, except that if a successor corporation or its parent or subsidiary does not assume or substitute an equivalent award for any outstanding award, then such award will fully vest, all restrictions on such award will lapse, all performance goals or other vesting criteria applicable to such award will be deemed achieved at 100% of target levels, and such award will become fully exercisable, if applicable, for a specified period prior to the transaction. The award will then terminate upon the expiration of the specified period of time.

Anti-takeover effects of Delaware law and our certificate of incorporation and bylaws

Our certificate of incorporation and bylaws contains provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions and certain provisions of Delaware law, which are summarized below, could discourage takeovers, coercive or otherwise. These provisions are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us.

Dual class stock. As described above under the heading “Description of capital stock—Class A and Class B common stock—Voting rights,” our certificate of incorporation provides for a dual class common stock structure, which provides our founders and certain others with significant influence over all matters requiring stockholder approval, including the election of directors and significant corporate transactions, such as a merger or other sale of our company or its assets.

Issuance of undesignated preferred stock. As discussed above under the heading “Description of capital stock—Preferred stock,” our board of directors has the ability to designate and issue preferred stock with voting or other rights or preferences that could deter hostile takeovers or delay changes in our control or management.

Limits on ability of stockholders to act by written consent or call a special meeting. Our certificate of incorporation provides that our stockholders may not act by written consent. This limit on the ability of stockholders to act by written consent may lengthen the amount of time required to take stockholder actions. As a result, the holders of a majority of our capital stock would not be able to amend the bylaws or remove directors without holding a meeting of stockholders called in accordance with the bylaws.

In addition, our bylaws provide that special meetings of the stockholders may be called only by the chairman of our board of directors, the chief executive officer, the president (in the absence of a chief executive officer) or a majority of our board of directors. A stockholder may not call a special meeting, which may delay the ability of our stockholders to force consideration of a proposal or for holders controlling a majority of our capital stock to take any action, including the removal of directors.

Requirements for advance notification of stockholder nominations and proposals. Our bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors or a committee of the board of directors. These advance notice procedures may have the effect of precluding the conduct of certain

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

business at a meeting if the proper procedures are not followed and may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempt to obtain control of our company.

Board classification. Our certificate of incorporation provides that our board of directors is divided into three classes, one class of which is elected each year by our stockholders. The directors in each class serve for a three-year term. Our classified board of directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of us because it generally makes it more difficult for stockholders to replace a majority of the directors.

Election and removal of directors. Our certificate of incorporation and bylaws contain provisions that establish specific procedures for appointing and removing members of our board of directors. Under our certificate of incorporation and bylaws, vacancies and newly created directorships on our board of directors may be filled only by a majority of the directors then serving on our board of directors. Under our certificate of incorporation and bylaws, directors may be removed only for cause.

No cumulative voting. The Delaware General Corporation Law provides that stockholders are not entitled to the right to cumulative votes in the election of directors unless our certificate of incorporation provides otherwise. Our certificate of incorporation and bylaws do not expressly provide for cumulative voting. Without cumulative voting, a minority stockholder may not be able to gain as many seats on our board of directors as the stockholder would be able to gain if cumulative voting were permitted. The absence of cumulative voting makes it more difficult for a minority stockholder to gain a seat on our board of directors to influence our board of directors' decision regarding a takeover.

Amendment of charter provision. Any amendment of the above provisions in our certificate of incorporation would require approval by holders of at least two-thirds of our then outstanding Class A and Class B common stock, voting together as a single class.

Delaware anti-takeover statute. We will be subject to the provisions of Section 203 of the Delaware General Corporation Law regulating corporate takeovers. In general, Section 203 prohibits a publicly held Delaware corporation from engaging, under certain circumstances, in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

- prior to the date of the transaction, our board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to the date of the transaction, the business combination is approved by our board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We also anticipate that Section 203 may discourage attempts that might result in a premium over the market price for the shares of Class A common stock held by stockholders.

The provisions of Delaware law and the provisions of our certificate of incorporation and bylaws could have the effect of discouraging others from attempting hostile takeovers and as a consequence, they might also inhibit temporary fluctuations in the market price of our Class A common stock that often result from actual or rumored hostile takeover attempts. These provisions might also have the effect of preventing changes in our management. It is also possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests.

Transfer agent and registrar

American Stock Transfer & Trust Company, LLC is the transfer agent and registrar for our common stock. The transfer agent's address is Operations Center, 6201 15th Avenue Brooklyn, NY 11219, and its telephone number is (800) 937-5449.

Exchange listing

Our Class A common stock is listed on the Nasdaq Global Select Market under the symbol "ALTR."

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Shares eligible for future sale

Future sales of our Class A common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect the market price of our Class A common stock prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nonetheless, sales of substantial amounts of our common stock, or the perception that these sales could occur, could adversely affect prevailing market prices for our common stock and could impair our future ability to raise equity capital.

Sales of restricted shares

Based on the number of shares outstanding on March 31, 2018, upon completion of this offering, we will have outstanding an aggregate of _____ shares of Class A common stock and _____ shares of Class B common stock. Of these shares, all of the 13,800,000 shares of Class A common stock sold in our initial public offering and all of the _____ shares of Class A common stock to be sold in this offering (or _____ shares assuming the underwriters exercise the option to purchase additional shares in full) will be freely tradable without restriction or further registration under the Securities Act, unless the shares are held by any of our "affiliates" as such term is defined in Rule 144 under the Securities Act, which shares will be subject to the volume limitations and other restrictions of Rule 144 described below.

Subject to the terms of the lock-up agreements with the underwriters, the remaining outstanding shares of our common stock will be deemed restricted securities as defined under Rule 144. Restricted securities may be sold in the public market only if registered or if they qualify for an exemption from registration under Rule 144 or Rule 701 promulgated under the Securities Act of 1933, as amended, or the Securities Act, which rules are summarized below. In addition, the selling stockholders in this offering and the other executive officers and directors of our company have entered lock-up agreements with the underwriters under which they agreed, subject to specific exceptions, not to sell any of their stock as described below. Subject to the provisions of Rule 144 or Rule 701, shares are or will be available for sale in the public market as follows:

- on the date of this prospectus, _____ shares of our common stock (including all _____ shares of our common stock sold in this offering and all 13,800,000 shares of our Class A common stock sold in our initial public offering are available for sale in the public market, except for the shares held by affiliates which are subject to the volume and other restrictions of Rule 144;
- additional shares will be eligible for sale in the public market 60 days from the date of the final prospectus relating to his offering upon the expiration of certain lock-up agreements entered into in connection with this offering;
- additional shares will be eligible for sale in the public market 90 days from the date of the final prospectus relating to this offering upon the expiration of certain other lock-up agreements entered into in connection with this offering ; and
- the remainder of the shares will be eligible for sale in the public market from time to time thereafter, subject in some cases to the volume and other restrictions of Rule 144, as described below.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Lock-up agreements

We, and each of the selling stockholders have agreed that, we and they will not, during the period ending 90 days after the date of this prospectus, except with the prior written consent of J.P. Morgan Securities LLC and RBC Capital Markets, LLC:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock;
- file any registration statement with the SEC relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or
- enter into any swap or other agreement that transfers to another, in whole or in part, any of the economic consequences of ownership of our common stock;

whether any such transaction described above is to be settled by delivery of shares of our common stock or such other securities, in cash or otherwise, subject to certain exceptions, as set forth in "Underwriting."

In addition, each of our other current directors and executive officers have agreed that they will not during the period ending 60 days after the date of this prospectus, except with the prior written consent of J.P. Morgan Securities LLC and RBC Capital Markets, LLC:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock;
- file any registration statement with the SEC relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or
- enter into any swap or other agreement that transfers to another, in whole or in part, any of the economic consequences of ownership of our common stock;

whether any such transaction described above is to be settled by delivery of shares of our common stock or such other securities, in cash or otherwise, subject to certain exceptions, as set forth in "Underwriting."

Pledged shares as collateral

In connection with certain of our acquisitions, we issued shares of our common stock as partial acquisition consideration, the Consideration Shares. The recipients of the Consideration Shares concurrently entered into stock pledge agreements with us pursuant to which each recipient pledged its Consideration Shares as collateral to secure certain indemnification obligations of the recipient under the applicable purchase agreement. The stock pledge agreements provide that in the event the relevant holder defaults on any indemnification obligation owed to us under the applicable purchase agreement or in the performance of such stockholder's obligations under the stock pledge agreement, subject to certain conditions, we may take possession of or sell the applicable Consideration Shares for up to the fair market value of the liability we incur.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

As of March 31, 2018, we have issued and outstanding an aggregate of 990,000 Consideration Shares of which 160,000 shares were released on August 17, 2017, 50,000 shares were released on March 12, 2018, 100,000 shares will be released on March 12, 2019, 200,000 shares will be released on March 28, 2019, 280,000 shares will be released on May 5, 2020 and 200,000 shares will be released on September 28, 2020.

Rule 144

In general, persons who have beneficially owned restricted shares of our common stock for at least six months, and any affiliate of the company who owns either restricted or unrestricted shares of our common stock, are entitled to sell their securities without registration with the SEC under an exemption from registration provided by Rule 144 under the Securities Act.

In general, a person who has beneficially owned restricted shares of our common stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale and (ii) we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale.

Persons who have beneficially owned restricted shares of our common stock for at least six months, but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares of Class A common stock then outstanding, which will equal approximately _____ shares immediately after this offering; or
- the average weekly trading volume of the Class A common stock during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to certain manner of sale provisions and notice requirements and to the availability of current public information about us.

Rule 701

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, although a portion of these shares have been registered on Form S-8 as described below.

Stock issued under employee benefit plans

We have filed and may in the future file with the SEC registration statements on Form S-8 under the Securities Act covering all of the shares of our common stock issuable under our equity plans. Shares covered by these registration statements will thereupon be eligible for sale in the public markets, subject to vesting restrictions, the lock-up agreements described above and Rule 144 limitations applicable to affiliates.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Material United States federal income tax consequences to non-U.S. holders of our Class A common stock

The following is a summary of the material United States federal income tax consequences to non-U.S. holders (as defined below) of their ownership and disposition of our Class A common stock, but does not purport to be a complete analysis of all the potential tax considerations relating thereto. This summary is based upon current provisions of the Internal Revenue Code, or Code, existing and proposed United States Treasury Regulations promulgated thereunder, current administrative rulings, and judicial decisions, all as in effect as of the date hereof. These authorities may be changed, possibly retroactively, so as to result in United States federal tax consequences different from those set forth below. We have not obtained, and do not intend to obtain, any opinion of counsel or ruling from the Internal Revenue Service, or the IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS will agree with such statements and conclusions.

This summary also does not address the tax considerations arising under the laws of any non-United States, state or local jurisdiction or under any non-income tax laws, including United States federal gift and estate tax laws, except to the limited extent set forth below. In addition, this discussion does not address the potential application of the tax on net investment income or the alternative minimum tax. This discussion may not apply, in whole or in part, to particular non-U.S. holders in light of their individual circumstances or to holders subject to special treatment under the United States federal income tax laws, including, without limitation:

- insurance companies, banks or other financial institutions;
- tax-exempt organizations;
- pension plans;
- controlled foreign corporations or passive foreign investment companies;
- brokers or dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than 5% of our capital stock (except to the extent specifically set forth below);
- certain former citizens or long-term residents of the United States;
- persons that hold our Class A common stock as a position in a hedging transaction, straddle, conversion transaction, synthetic security or other integrated investment;
- persons that hold or receive our Class A common stock pursuant to the exercise of any employee stock option or otherwise as compensation; and
- persons that do not hold our Class A common stock as a capital asset within the meaning of Section 1221 of the Code.

In addition, this discussion does not address the tax treatment of partnerships, including any entity or arrangement treated as a partnership for United States federal income tax purposes. Generally, the tax treatment of a person treated as a partner in such an entity will depend on the status of the partner, the

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

activities of the partner and the partnership, and certain determinations made at the partner level. Accordingly, partnerships that hold our Class A common stock, and partners in such partnerships, should consult their tax advisors.

Non-U.S. holder defined

For purposes of this discussion, you are a non-U.S. holder if you are a beneficial owner of our Class A common stock that is not, for United States federal income tax purposes:

- an individual citizen or resident of the United States;
- a corporation, or other entity taxable as a corporation, created or organized in the United States or under the laws of the United States or any political subdivision thereof;
- an estate whose income is subject to United States federal income tax regardless of its source; or
- a trust whose administration is subject to the primary supervision of a United States court and which has one or more "United States persons" (as defined in the Code) who have the authority to control all substantial decisions of the trust, or which has made a valid election to be treated as a United States person.

Distributions to non-U.S. holders

As described in the section titled "Dividend Policy," we do not anticipate paying any cash dividends or making distributions of other property on our Class A common stock in the foreseeable future. However, if we do make distributions of cash or property on our Class A common stock, those payments will constitute dividends for United States federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under United States federal income tax principles. To the extent those distributions exceed both our current and our accumulated earnings and profits, the excess will constitute a return of capital and will first reduce a non-U.S. holder's tax basis in our Class A common stock, but not below zero, and then will be treated by a non-U.S. holder as gain from the sale of stock as described below under "—Gain on dispositions of our Class A common stock by non-U.S. holders."

Subject to the discussion below on effectively connected income, any dividend paid to a non-U.S. holder generally will be subject to United States withholding tax either at a rate of 30% of the gross amount of the dividend or such lower rate as may be specified by an applicable income tax treaty. To receive a reduced treaty rate, a non-U.S. holder must provide us with an IRS Form W-8BEN or W-8BEN-E (or applicable successor form) and certify qualification for the reduced rate. If a non-U.S. holder is eligible for a reduced rate of United States withholding tax pursuant to an income tax treaty, such non-U.S. holder may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS. If a non-U.S. holder holds our Class A common stock through a financial institution or other agent acting on such non-U.S. holder's behalf, appropriate documentation will need to be provided to the agent, which then will be required to provide certification to us or our paying agent, either directly or through other intermediaries.

Dividends received by a non-U.S. holder that are effectively connected with such non-U.S. holder's conduct of a trade or business in the United States (and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by such non-U.S. holder in the United States), are generally exempt from the 30% withholding tax if certain certification and disclosure requirements are satisfied. To obtain this exemption, a non-U.S. holder must provide us with an IRS Form W-8ECI (or applicable

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successor form) properly certifying such exemption. However, such effectively connected dividends, although not subject to withholding tax, generally are taxed at the same United States federal income tax rates applicable to United States persons, net of certain deductions and credits. In addition, dividends received by a corporate non-U.S. holder that are effectively connected with the conduct of a trade or business in the United States may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable income tax treaty. Non-U.S. holders should consult with tax advisors regarding any applicable income tax or other treaties that may provide for different rules.

Any documentation provided to an applicable withholding agent may need to be updated in certain circumstances. The certification requirements described above also may require a non-U.S. holder to provide a United States taxpayer identification number.

For additional withholding rules that may apply to dividends, including dividends paid to foreign financial institutions (as specifically defined by the applicable rules) or to certain other foreign entities that have substantial direct or indirect United States owners, see the discussion below under the headings “—Backup withholding and information reporting” and “—Withholdable payments to foreign financial institutions and other foreign entities.”

Gain on dispositions of our Class A common stock by non-U.S. holders

Subject to the discussion below under the headings “—Backup withholding and information reporting” and “—Withholdable payments to foreign financial institutions and other foreign entities,” a non-U.S. holder generally will not be required to pay United States federal income tax or withholding tax on any gain recognized upon the sale, exchange or other taxable disposition of our Class A common stock unless:

- the gain is effectively connected with the conduct of a trade or business by such non-U.S. holder in the United States (and, if an applicable income tax treaty so provides, the gain is attributable to a permanent establishment or a fixed base maintained by such non-U.S. holder in the United States), in which case the non-U.S. holder will be required to pay tax on the net gain derived from the sale or disposition at the rates and in the manner applicable to United States persons, and an additional branch profits tax at a rate of 30% (or such lower rate as may be specified by an applicable income tax treaty) may also apply to a corporate non-U.S. holder;
- such non-U.S. holder is a nonresident alien individual who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the sale or disposition occurs and certain other conditions are met, in which case the non-U.S. holder will be required to pay a flat 30% tax (or such lower rate as may be specified by an applicable income tax treaty) on the gain derived from the sale or disposition, which gain may be offset by United States-source capital losses for the taxable year of the sale or disposition; or
- our Class A common stock constitutes a United States real property interest by reason of our status as a “United States real property holding corporation”, or USRPHC, for United States federal income tax purposes at any time within the shorter of the five-year period preceding such non-U.S. holder’s disposition of, or holding period for, our Class A common stock, in which case the non-U.S. holder generally will be taxed on net gain derived from the sale or disposition at the rates applicable to United States persons.

We believe that we are not currently and will not become a USRPHC and the remainder of this discussion so assumes. However, because the determination of whether we are a USRPHC depends on the fair market value of

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

our United States real property relative to the fair market value of our other business assets, there can be no assurance that we will not become a USRPHC in the future. Even if we become a USRPHC, however, as long as our Class A common stock is regularly traded on an established securities market, such Class A common stock will be treated as United States real property interests only if a non-U.S. holder actually or constructively holds more than 5% of such regularly traded Class A common stock at any time during the shorter of the five-year period preceding such non-U.S. holder's disposition of, or holding period for, our Class A common stock. Non-U.S. holders should consult with tax advisors regarding any applicable income tax or other treaties that may provide for different rules.

Backup withholding and information reporting

We (or the applicable paying agent) must report annually to the IRS the amount of dividends on our Class A common stock paid to non-U.S. holders and the amount of tax withheld, if any. A similar report will be sent to each non-U.S. holder. Copies of this information reporting may also be made available under the provisions of a specific income tax treaty or agreement with the tax authorities in a non-U.S. holder's country of residence.

Non-U.S. holders will generally be subject to backup withholding (at a current rate of 24%) for dividends on our Class A common stock paid to such non-U.S. holders unless an exemption is established such as by, for example, properly certifying non-United States status on an IRS Form W-8BEN or W-8BEN-E (or applicable successor form). Notwithstanding the foregoing, backup withholding and information reporting may apply if either we or our paying agent has actual knowledge, or reason to know, that a holder of our Class A common stock is a United States person.

Information reporting and backup withholding generally are not required with respect to the amount of any proceeds from the sale or other disposition of our Class A common stock by a non-U.S. holder outside the United States through a foreign office of a foreign broker that does not have certain specified connections to the United States. However, if a non-U.S. holder sells or otherwise disposes of shares of Class A common stock through a United States broker or the United States offices of a foreign broker, the broker will generally be required to report the amount of proceeds paid to such non-U.S. holder to the IRS and also to backup withhold on that amount unless the broker is provided appropriate certification of status as a non-United States person or an exemption is otherwise established. Information reporting will also apply if a non-U.S. holder sells shares of Class A common stock through a foreign broker deriving more than a specified percentage of its income from United States sources or having certain other connections to the United States, unless such broker has documentary evidence in its records that such non-U.S. holder is a non-United States person and certain other conditions are met, or an exemption is otherwise established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment may be refunded or credited against a non-U.S. holder's United States federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS. Non-U.S. holders should consult with tax advisors regarding the application of the information reporting and backup withholding rules to investment in our Class A common stock.

Withholdable payments to foreign financial institutions and other foreign entities

The Foreign Account Tax Compliance Act, or FATCA, imposes a United States federal withholding tax of 30% on certain payments to "foreign financial institutions" (as specifically defined under these rules) and certain other non-United States persons that fail to comply with certain information reporting and certification requirements

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

pertaining to their direct and indirect United States securityholders and/or United States account holders. Such payments include dividends on and, on or after January 1, 2019, gross proceeds from the sale or other disposition of our Class A common stock. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of such taxes. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult with tax advisors regarding the possible implications of this legislation and any applicable intergovernmental agreements on investment in our Class A common stock.

Federal estate tax

Our Class A common stock beneficially owned by an individual who is not a citizen or resident of the United States (as defined for United States federal estate tax purposes) at the time of their death will generally be includable in the decedent's gross estate for United States federal estate tax purposes and, therefore, may be subject to United States federal estate tax unless an applicable estate tax treaty or other treaty provides otherwise. Investors are urged to consult their own tax advisors regarding the United States federal estate tax consequences of the ownership or disposition of our Class A common stock.

THIS DISCUSSION IS NOT TAX ADVICE. NON-U.S. HOLDERS ARE URGED TO CONSULT WITH TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE UNITED STATES FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATION, AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR CLASS A COMMON STOCK ARISING UNDER THE UNITED STATES FEDERAL ESTATE OR GIFT TAX RULES OR UNDER THE LAWS OF ANY STATE, LOCAL, NON-UNITED STATES OR OTHER TAXING JURISDICTION OR UNDER ANY APPLICABLE TAX TREATY, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAWS.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Underwriting

We and the selling stockholders are offering the shares of Class A common stock described in this prospectus through a number of underwriters. J.P. Morgan Securities LLC, RBC Capital Markets, LLC and Deutsche Bank Securities Inc. are acting as book-running managers of the offering, and J.P. Morgan Securities LLC and RBC Capital Markets, LLC are acting as representatives of each of the underwriters named below. We and the selling stockholders have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we and the selling stockholders have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus, the number of shares of Class A common stock listed next to its name in the following table:

Name	Number of shares
J.P. Morgan Securities LLC	
RBC Capital Markets, LLC	
Deutsche Bank Securities Inc.	
William Blair & Company, L.L.C.	
Canaccord Genuity LLC	
Needham & Company, LLC	
Berenberg Capital Markets, LLC	
Total	

The underwriters are committed to purchase all the shares of Class A common stock offered by us and the selling stockholders if they purchase any shares. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased or the offering may be terminated.

The underwriters propose to offer the shares of Class A common stock directly to the public at the public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of \$ per share. Any such dealers may resell shares to certain other brokers or dealers at a discount of up to \$ per share from the public offering price. After the initial offering of the shares to the public, the offering price and other selling terms may be changed by the underwriters. Sales of shares made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to additional shares of Class A common stock from us. The underwriters have 30 days from the date of this prospectus to exercise this option to purchase additional shares. If any shares of Class A common stock are purchased with this option to purchase additional shares, the underwriters will purchase shares of Class A common stock in approximately the same proportion as shown in the table above. If any additional shares of Class A common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

The underwriting fee is equal to the public offering price per share of Class A common stock less the amount paid by the underwriters to us per share of Class A common stock. The underwriting fee is \$ _____ per share. The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares of Class A common stock from us and the selling stockholders.

	Without option to purchase additional shares exercise	With full option to purchase additional shares exercise
Per Share	\$ _____	\$ _____
Total	\$ _____	\$ _____

We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately \$ _____.

We also have agreed to reimburse the underwriters for certain of their expenses, as set forth in the underwriting agreement, including an amount of up to \$ _____, that may be incurred in connection with the review by the Financial Industry Regulatory Authority, Inc. of the terms of the offering.

A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

We have agreed that we will not (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, or file with the Securities and Exchange Commission a registration statement under the Securities Act relating to, any shares of our Class A common stock or Class B common stock, or securities convertible into or exchangeable or exercisable for any shares of our Class A common stock or Class B common stock, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing, or (ii) enter into any swap or other arrangement that transfers all or a portion of the economic consequences associated with the ownership of any shares of common stock or any such other securities (regardless of whether any of these transactions are to be settled by the delivery of shares of common stock or such other securities, in cash or otherwise), in each case without the prior written consent of J.P. Morgan Securities LLC and RBC Capital Markets, LLC for a period of 90 days after the date of this prospectus, other than the shares of our common stock to be sold hereunder, any shares of our common stock issued upon the exercise of options granted under our existing equity compensation plans or shares of our common stock and securities convertible into our common stock, in an amount not to exceed five percent of our outstanding securities, calculated as of the closing of this offering, in connection with business combinations and other comparable corporate transactions.

The selling stockholders and our directors and executive officers have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which each of these persons or entities,

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

with limited exceptions, for a period of 90 days (in the case of the selling stockholders) and 60 days (in the case of our directors and executive officers who are not selling stockholders) after the date of this prospectus, may not, without the prior written consent of J.P. Morgan Securities LLC and RBC Capital Markets, LLC, (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of our Class A common stock or Class B common stock, or any securities convertible into or exercisable or exchangeable for our Class A common stock or Class B common stock (including, without limitation, common stock or such other securities which may be deemed to be beneficially owned by such directors, executive officers, managers and members in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant) or (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the common stock or such other securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of common stock or such other securities, in cash or otherwise, or (3) make any demand for or exercise any right with respect to the registration of any shares of our common stock or any security convertible into or exercisable or exchangeable for our common stock.

We and the selling stockholders have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933, as amended.

Our Class A common stock is listed on the Nasdaq Global Select Market under the symbol "ALTR".

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of Class A common stock in the open market for the purpose of preventing or retarding a decline in the market price of the Class A common stock while this offering is in progress. These stabilizing transactions may include making short sales of the Class A common stock, which involves the sale by the underwriters of a greater number of shares of Class A common stock than they are required to purchase in this offering, and purchasing shares of Class A common stock on the open market to cover positions created by short sales. Short sales may be "covered" shorts, which are short positions in an amount not greater than the underwriters' option to purchase additional shares referred to above, or may be "naked" shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their option to purchase additional shares, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market compared to the price at which the underwriters may purchase shares through the option to purchase additional shares. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the Class A common stock in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act of 1933, as amended, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the Class A common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase Class A common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares as part of this offering to repay the underwriting discount received by them.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

These activities may have the effect of raising or maintaining the market price of the Class A common stock or preventing or retarding a decline in the market price of the Class A common stock, and, as a result, the price of the Class A common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on the Nasdaq Global Select Market, in the over-the-counter market or otherwise.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. Affiliates of J.P. Morgan Securities LLC and RBC Capital Markets, LLC are lenders under our revolving credit facilities. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Selling restrictions

General

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor. Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

European economic area

In relation to each Member State of the European Economic Area (each, a "Relevant Member State"), no offer of shares may be made to the public in that Relevant Member State other than:

- A. to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- B. to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives; or
- C. in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of shares shall require the Company, the selling stockholders or the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

Each person in a Relevant Member State who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed that it is a "qualified investor" within the meaning of the law in that Relevant Member State implementing Article 2(1)(e) of the Prospectus Directive. In the case of any shares being offered to a financial intermediary as that term is used in Article 3(2) of the Prospectus Directive, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Relevant Member State to qualified investors as so defined or in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

The Company, the selling stockholders, the representatives and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

This prospectus has been prepared on the basis that any offer of shares in any Relevant Member State will be made pursuant to an exemption under the Prospectus Directive from the requirement to publish a prospectus for offers of shares. Accordingly any person making or intending to make an offer in that Relevant Member State of shares which are the subject of the offering contemplated in this prospectus may only do so in circumstances in which no obligation arises for the Company or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive in relation to such offer. Neither the Company, the selling stockholders, nor the underwriters have authorized, nor do they authorize, the making of any offer of shares in circumstances in which an obligation arises for the Company, the selling stockholders or the underwriters to publish a prospectus for such offer.

For the purpose of the above provisions, the expression "an offer to the public" in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe the shares, as the same may be varied in the Relevant Member State by any measure implementing the Prospectus Directive in the Relevant Member State and the expression "Prospectus Directive" means Directive 2003/71/EC (including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member States) and includes any relevant implementing measure in the Relevant Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

United Kingdom

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Directive) (i) who have professional experience in matters relating to investments falling within Article 19 (5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended, or "the Order", and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons").

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons. Any person in the United Kingdom that is not a relevant person should not act or rely on this document or any of its contents.

Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Act. Accordingly, the shares may not be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to or for the benefit of a resident of Japan, except pursuant to an exemption from the registration requirements, and otherwise in compliance with, the Financial Instruments and Exchange Act and any other applicable laws, regulations and ministerial guidelines of Japan.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or "the SFA", (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the securities pursuant to an offer made under Section 275 of the SFA except:
 - (a) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
 - (b) where no consideration is or will be given for the transfer;
 - (c) where the transfer is by operation of law;
 - (d) as specified in Section 276(7) of the SFA; or
 - (e) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Legal matters

The validity of the shares of Class A common stock offered hereby will be passed upon for us by Lowenstein Sandler LLP, New York City, New York. Goodwin Procter LLP, Boston, Massachusetts is representing the underwriters in this offering.

Experts

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements and schedule included in our Annual Report on Form 10-K for the year ended December 31, 2017, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements and schedule are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

Where you can find more information

We filed a registration statement on Form S-1 with the SEC with respect to the registration of the Class A common stock offered for sale with this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information about us, the Class A common stock we are offering by this prospectus and related matters, you should review our SEC filings and the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus about the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and we refer you to the full text of the contract or other document filed as an exhibit to the registration statement. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. A copy of the registration statement and the exhibits that were filed with the registration statement may be inspected without charge at the public reference facilities maintained by the SEC at 100 F. Street, N.E., Washington, D.C. 20549, and copies of all or any part of the registration statement may be obtained from the SEC upon payment of the prescribed fee. Information on the operation of the public reference facilities may be obtained by calling the SEC at 1-800-SEC-0330. The SEC maintains a website that contains reports, proxy and information statements, and other information regarding registrants that file electronically with the SEC. The address of the site is <http://www.sec.gov>.

We are subject to the information reporting requirements of the Exchange Act, and we file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information are available for inspection and copying at the public reference room and website of the SEC referred to above. We also maintain a website at <http://altair.com>, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of, and is not incorporated into, this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Incorporation of certain information by reference

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information

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Pursuant to 17 C.F.R. Section 200.83**

incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (File No. 001-38263):

- our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 21, 2018;
- our Proxy Statement on Schedule 14A, filed with the SEC on April 26, 2018;
- our Quarterly Report on Form 10-Q for the period ended March 31, 2018, filed with the SEC on May 14, 2018; and
- our Current Report on Form 8-K filed with the SEC on April 3, 2018 (only with respect to Item 5.02).

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information that we have “furnished” to the SEC pursuant to the Exchange Act shall be incorporated by reference into this prospectus.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to Altair Engineering Inc., Attn: Investor Relations, ir@altair.com.

You also may access these filings on our website at <http://altair.com>. We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83

shares

ALTAIR ENGINEERING INC.

Class A common stock



J.P. Morgan

William Blair

RBC Capital Markets

Canaccord Genuity

Deutsche Bank Securities

Berenberg Capital Markets, LLC

Needham & Company

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Pursuant to 17 C.F.R. Section 200.83**

Part II

Information not required in the prospectus

Item 13. Other expenses of issuance and distribution.

The following table sets forth all fees and expenses to be paid by us, other than estimated underwriting discounts and commissions, in connection with this offering. All amounts shown are estimates except for the registration fee, the FINRA filing fee and the exchange listing fee.

	Amount to be paid
SEC registration fee	*
FINRA filing fee	*
Securities exchange fee	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Blue Sky fees and expenses (including legal fees)	*
Transfer agent and registrar fees and expenses	*
Miscellaneous	*
Total	\$ *

* To be filed by amendment.

Item 14. Indemnification of directors and officers.

Section 145 of the Delaware General Corporation Law, or DGCL, authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors, and other corporate agents under certain circumstances and subject to certain limitations. The terms of Section 145 of the DGCL are sufficiently broad to permit indemnification under certain circumstances for liabilities, including reimbursement of expenses incurred, arising under the Securities Act of 1933, as amended, or the Securities Act.

As permitted by Section 145 of the DGCL, our certificate of incorporation and bylaws include provisions that eliminate the personal liability of its directors and officers for monetary damages for breach of their fiduciary duty as directors and officers.

In addition, as permitted by Section 145 of the DGCL, our certificate of incorporation and bylaws provide that:

- we shall indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful;
- we may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law;

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Pursuant to 17 C.F.R. Section 200.83**

- we are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such director or officer shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification;
- we will not be obligated pursuant to our Delaware bylaws to indemnify a person with respect to proceedings initiated by that person, except with respect to proceedings authorized by our board of directors or brought to enforce a right to indemnification;
- the rights conferred in our certificate of incorporation and bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees, and agents and to obtain insurance to indemnify such persons; and
- we may not retroactively amend the bylaw provisions to reduce our indemnification obligations to directors, officers, employees, and agents.

Our policy is to enter into separate indemnification agreements with each of our directors and certain officers that provide the maximum indemnity allowed to directors and executive officers by Section 145 of the DGCL and also to provide for certain additional procedural protections. We also maintain directors and officers insurance to insure such persons against certain liabilities.

These indemnification provisions and the indemnification agreements to be entered into between us and our directors and officers may be sufficiently broad to permit indemnification of our officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

The Underwriting Agreement to be filed as Exhibit 1.1 to this registration statement provides for indemnification by the underwriters of us, our executive officers and directors and the selling stockholders, and by us and the selling stockholders of the underwriters for certain liabilities, including liabilities arising under the Securities Act and otherwise.

We have purchased and intend to maintain insurance on behalf of any person who is or was a director or officer against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

See also the undertakings set out in response to Item 17 herein.

Item 15. Recent sales of unregistered securities.

Set forth below is information regarding shares of our capital stock issued by us within the past three years. Also included is the consideration received by us for such shares and information relating to the section of the Securities Act, or rule of the SEC, under which exemption from registration was claimed.

Plan-related issuances

From January 1, 2015, to November 3, 2017, the date of the filing of our registration statement on Form S-8 (File No. 333- 221312) we have made sales of the following unregistered securities:

- (1) From September 30, 2014 through November 3, 2017, we granted to our directors, officers, employees, consultants and other service providers options to purchase an aggregate of 1,504,668 shares of our old Class B Common Stock with per share exercise prices ranging from \$3.56 to \$5.18 under our 2012 Stock Plan.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

- (2) From September 30, 2014 through November 3, 2017, we issued to our directors, officers, employees, consultants and other service providers an aggregate of 342,672 shares of our old Class B Common Stock with per share exercise prices ranging from \$2.48 to \$4.52 pursuant to exercises of options granted under our 2012 Stock Plan.
- (3) From September 30, 2014 through November 3, 2017, we issued to our directors, officers, employees, consultants and other service providers an aggregate of 4,179,484 shares of our old Class B Common Stock with a per share exercise price of \$0.000025 pursuant to exercises of options granted under our 2001 Nonqualified Stock Option Plan.
- (4) From September 30, 2014 through November 3, 2017, we issued to our directors, officers, employees, consultants and other service providers an aggregate of 989,048 shares of our old Class B Common Stock with per share exercise prices ranging from \$0.23 to \$1.29 pursuant to exercises of options granted under our 2001 Incentive and Nonqualified Stock-based Plan.

The issuances and grants of the securities described in Items 1 through 4 were exempt from registration under the Securities Act under Rule 701 in that the transactions were made pursuant to compensatory benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of such securities were our employees, consultants or directors. The recipients of securities in each of these transactions represented their intention to acquire the securities for investment only and not with view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions.

Shares issued in connection with acquisitions

Since January 1, 2015, we have made the following issuances of unregistered securities in connection with acquisitions:

- (1) On March 12, 2015, we issued 200,000 shares of our old Class B Common Stock to the sole stockholder of Multiscale Design Systems, LLC, or MDS, as partial consideration for our acquisition of all of the outstanding equity of MDS pursuant to the terms of the membership interest purchase agreement under which we acquired MDS.
- (2) On May 5, 2017, we issued 80,000 shares of our Class A Common Stock to the shareholders of Carriots, S.L, or Carriots, as partial consideration for our acquisition of all of the outstanding equity of Carriots pursuant to the terms of the share purchase agreement under which we acquired Carriots.
- (3) On May 5, 2017, we issued 200,000 shares of our Class A Common Stock to Easii IC SAS, or Easii, as partial consideration for its assignment of all of its rights to some of its software pursuant to the terms of the software assignment agreement under which we acquired the software.
- (4) On September 28, 2017, we issued 708,000 shares of our Class A Common Stock to shareholders of Runtime Design Automation, or Runtime, as partial consideration for the consummation of the merger of our wholly-owned subsidiary, RTDA Acquisition Corporation, into Runtime pursuant to the terms of the agreement and plan of merger under which we acquired Runtime.

The issuances of the securities described in Items 1 through 4 above were exempt from registration under the Securities Act pursuant to Section 4(a)(2) of the Securities Act. We relied on the written representation of the recipients of the shares as to their statuses as "accredited investors" as defined in Rule 501(a) of Regulation D in the issuances described in items 1 through 4 above. In addition, we relied on an exemption under Rule 506(b) of Regulation D in the issuance described in item 4 above.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. We believe these transactions were exempt from registration under the Securities Act in reliance upon Section 4(a)(2) of the Securities Act (or Regulation D or Regulation S promulgated thereunder), or Rule 701 promulgated under Section 3(b) of the Securities Act as transactions by an issuer not involving any public offering or pursuant to benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. All recipients had adequate access, through their relationships with us, to information about us. The sales of these securities were made without any general solicitation or advertising.

Item 16. Exhibits and financial statement schedules.

(a) Exhibits:

The exhibit index attached hereto is incorporated herein by reference.

(b) Financial statement schedules.

All schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings.

(a) The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

(b) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(c) The undersigned Registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Exhibit index

Exhibit no.	Description	Form	File no.	Incorporated by reference		
				Exhibit	Filing date	Filed herewith
1.1*	Form of Underwriting Agreement					
3.1	Certificate of Incorporation, as amended and as currently in effect	S-1/A	333-220710	3.1	10/6/2017	
3.2	Bylaws, as currently in effect	S-1/A	333-220710	3.2	10/6/2017	
5.1*	Opinion of Lowenstein Sandler LLP					
10.1	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers	S-1	333-220710	10.1	9/29/2017	
10.2+	2001 Incentive and Non-Qualified Stock Option Plan	S-1	333-220710	10.2	9/29/2017	
10.3+	Form of 2001 Incentive and Non-Qualified Stock Option Plan Incentive Stock Option Agreement	S-1	333-220710	10.3	9/29/2017	
10.4+	Form of 2001 Incentive and Non-Qualified Stock Option Plan Stock Restriction and Repurchase Agreement	S-1	333-220710	10.4	9/29/2017	
10.5+	2001 Non-Qualified Stock Option Plan	S-1	333-220710	10.5	9/29/2017	
10.6+	Form of 2001 Non-Qualified Stock Option Plan Non-Qualified Stock Option Agreement	S-1	333-220710	10.6	9/29/2017	
10.7+	Form of 2001 Non-Qualified Stock Option Plan Stock Restriction Agreement	S-1	333-220710	10.7	9/29/2017	
10.8+	2012 Incentive and Non-Qualified Stock Option Plan	S-1	333-220710	10.8	9/29/2017	
10.9+	Form of 2012 Incentive and Non-Qualified Stock Option Plan Option Agreement	S-1	333-220710	10.9	9/29/2017	
10.10+	Form of 2012 Incentive and Non-Qualified Stock Option Plan Stock Restriction and Repurchase Agreement	S-1	333-220710	10.10	9/29/2017	
10.11+	Form of 2012 Incentive and Non-Qualified Stock Option Plan Stock Restriction and Repurchase Agreement (Directors)	S-1	333-220710	10.11	9/29/2017	
10.12+	2017 Equity Incentive Plan and forms of equity agreements thereunder	S-1/A	333-220710	10.12	10/6/2017	
10.13+	Employment Letter, dated January 10, 2013, by and between the Registrant and Howard N. Morof as amended on July 19, 2017	S-1	333-220710	10.13	9/29/2017	

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Exhibit no.	Description	Incorporated by reference				
		Form	File no.	Exhibit	Filing date	Filed herewith
10.14	2017 Second Amended and Restated Credit Agreement, dated June 14, 2017, by and among the Registrant, the foreign subsidiary borrowers, the Lenders named therein and JP Morgan Chase Bank, N.A. as administrative agent, as last amended September 28, 2017	S-1	333-220710	10.14	9/29/2017	
10.15+	Consulting Agreement, effective as of January 1, 2017, by and between the Registrant and Advanced Studies Holding Future SRL, an Italian Company, as amended	S-1	333-220710	10.15	9/29/2017	
10.16	2017 Third Amended and Restated Credit Agreement, dated October 18, 2017, by and among the Registrant, the foreign subsidiary borrowers, the Lenders named therein and JP Morgan Chase Bank, N.A. as administrative agent	S-1/A	333-220710	10.16	10/19/17	
21.1	List of Subsidiaries of the Registrant	10-K	001-38263	21.1	3/21/18	
23.1*	Consent of Independent Registered Public Accounting Firm					
23.2*	Consent of Lowenstein Sandler LLP (included in Exhibit 5.1)					
24.1*	Power of Attorney (contained in the signature page of this registration statement)					

* To be filed by amendment.

+ Indicates management contract or compensatory plan.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Signatures

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Troy, State of Michigan, on the day of , 2018.

ALTAIR ENGINEERING INC.

By: _____
James R. Scapa
Chairman and Chief Executive Officer

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints James R. Scapa and Howard N. Morof, and each of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign this Registration Statement and any or all amendments (including post-effective amendments) thereto and any new registration statement with respect to the offering contemplated thereby filed pursuant to Rule 462(b) of the Securities Act, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite or necessary to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or his or her or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

**Confidential treatment requested by Altair Engineering Inc.
Pursuant to 17 C.F.R. Section 200.83**

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
_____ James R. Scapa	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	, 2018
_____ Howard N. Morof	Chief Financial Officer (Principal Financial and Accounting Officer)	, 2018
_____ Mary C. Boyce	Director	, 2018
_____ James E. Brancheau	Director	, 2018
_____ Steve Earhart	Director	, 2018
_____ Trace Harris	Director	, 2018
_____ Richard Hart	Director	, 2018
_____ Jan Kowal	Director	, 2018