



# **MANUFACTURING** IN THE AGE OF EXPERIENCE™

SEPTEMBER 19-20, 2018 | SHANGHAI, CHINA

## **KEY TAKEAWAY**



# DAY 1

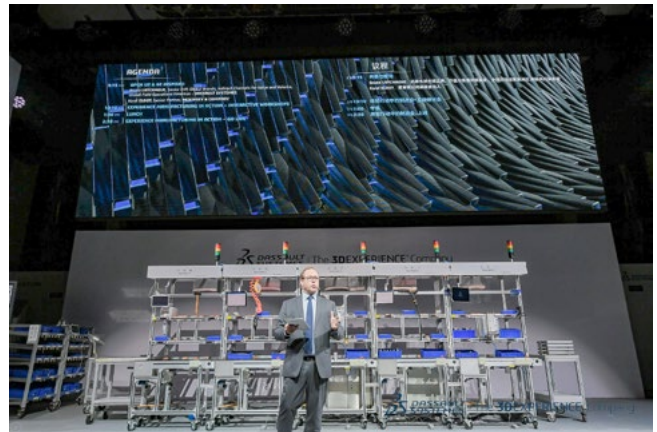
## 1/ WELCOME TO MANUFACTURING IN THE AGE OF EXPERIENCE

**Guillaume VENDROUX, DELMIA CEO, Dassault Systèmes**

This is the 4th edition of Manufacturing in the Age of Experience, taking place during the 20th China International Industry Fair (CIIF), a major event for the industrial world; in a country inventing the future of Manufacturing, powered by world-class innovation.

### New challenges, new format: A LEARNING EXPEDITION

- Designed for an exclusive worldwide audience from Manufacturing, Industrial and Innovation areas
- To share our “Industry Renaissance” vision and the impact on Manufacturing, to provide proof points of what is happening with experts and leading companies, to inspire and explore future trends in Manufacturing, and to showcase how the **3DEXPERIENCE®** can change the business equation
- A unique opportunity to experience manufacturing in action and the **3DEXPERIENCE®** Twin participating in 8 interactive workshops set up “in the real life of the factory”, with a production line of gearboxes on stage
- An event built in cooperation with key partners (Tsinghua University and McKinsey & Company Digital Capability Center Beijing, Lean Intelligence, ABB, NavVis, OSIsoft, Forbes)



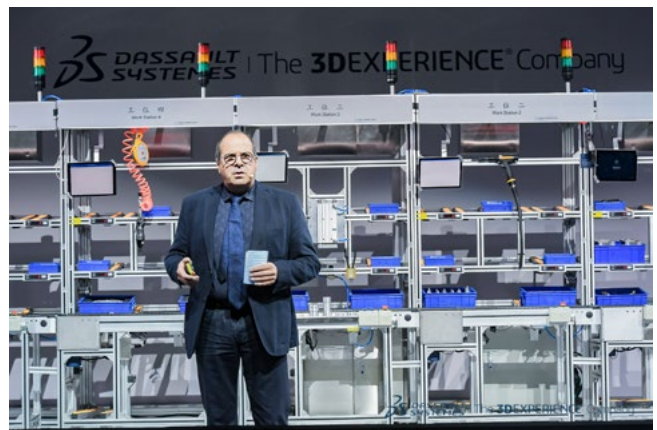
## 2/ KEYNOTE SPEECH - INDUSTRY RENAISSANCE

**Bruno LATCHAGUE, Senior EVP, Global Brands, Indirect Channels for Value and Volume, Global Field Operations Americas, Dassault Systèmes**

We are experiencing a global Industry Renaissance, bringing new ways, real and virtual, of inventing, learning, producing and trading. It shakes all existing sectors in the economy and society.

We see new categories of industrial firms creating new categories of solutions for new categories of customers.

It's changing the boundaries of the industries and it is driven by online experience platforms.



This is why Dassault Systèmes is the catalyst and enabler of Industry Renaissance. The **3DEXPERIENCE®** platform enables customers to empower their workforce with knowledge and know-how and invent new categories of experiences. As it is both an operating system and a business model, the **3DEXPERIENCE®** platform enables businesses to reach excellence and to set up the most innovative value networks to deliver the business value outcome they expect.

### Key messaging: “IF WE unlock the value of virtual, can we MAKE our future more sustainable?”

- **VALUE NETWORKS:** Transform supply chains into value networks by removing barriers between potential business partners and enabling new business models for delivering sustainable innovation to consumers
- **WORKFORCE OF THE FUTURE:** Reveal the workforce talents of today to train the workforce of tomorrow by combining Experiences, knowledge and know how
- **SUSTAINABLE INNOVATION & EXCELLENCE:** Reduce risk, improve, and predict operational performance by combining the power of virtual and real worlds where people and machines, come together to transform manufacturing

### 3/ KEYNOTE SPEECH – WORLDWIDE MANUFACTURING INSIGHTS

**Dr. Karel ELOOT, Senior Partner, McKinsey & Company**

Based on a rich survey published recently around Industrial IoT and digitalization, McKinsey & Company shares key factors for successful transformations, building on use cases from various countries and sectors.

**McKinsey & Company confirms the vision of Dassault Systèmes: Industry Renaissance is upon us**

**Leading companies have understood what lies ahead and they are definitely ready to embrace this revolution:**

- Building and leveraging new ecosystems of partnerships into value networks
- Managing them dynamically using data centric platforms like the **3DEXPERIENCE®** platform, enabling new ways of working and collaborating (agile) and empowering people (new roles, new skills)
- Creating new business models for delivering sustainable innovation to consumers



### 4/ MANUFACTURING IN ACTION: INTERACTIVE WORKSHOPS

**Thanks to our partners Tsinghua University and McKinsey & Company Digital Capability Center, Beijing**

**An interactive and collective experience to illustrate the power of the 3DEXPERIENCE Twin, to show how to drive the real world from the virtual one, and to measure how it can help to improve speed and agility.**

Combining digital tools, use cases, V+R and strategic content, this immersive journey highlights major challenges and key value gains on eight domains: Manufacturing Operations Management – Digital Transformation and Capability Building (McKinsey & Company) – Lean Management – Value Network Optimization – Automation Simulation – Integrated Quality Management – Model-Based Manufacturing – IIoT & Manufacturing Analytics.



### 5/ PRODUCTION LINE GO LIVE – REDUCE THE DISTANCE BETWEEN V+R

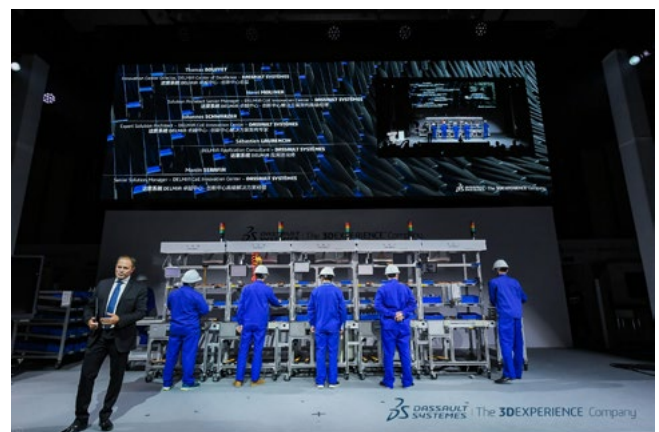
**Thomas BOUFFET, DELMIA Center of Excellence Innovation Center Director, Dassault Systèmes**

**Garth COLEMAN, Vice President Marketing, ENOVIA, Dassault Systèmes**

**Guillaume VENDROUX, DELMIA CEO, Dassault Systèmes**

**Morgan ZIMMERMANN, EXALEAD CEO, Dassault Systèmes**

After covering the entire manufacturing scope enabled by the power of the **3DEXPERIENCE®** Twin – from building the model, to optimizing it, operating and collaborating – the experience ends on the production line “go live”.



Take away of the entire workshop journey:

#### **VALUE NETWORKS:**

- Virtual world extending and improving real world
- A unique opportunity to “rethink” the contribution of each supplier and partner
- The **3DEXPERIENCE®** platform enables the transformation towards value network: a single, virtual, social enterprise, pioneering a new way to do business, innovate, and create value in the manufacturing industry

## WORKFORCE OF THE FUTURE:

- The **3DEXPERIENCE**® platform digitally captures knowledge and know how, bringing solutions for process improvement, solutions for operations optimization
- Knowledge and know how are available to every user, so they can interact and learn, and have all the information and analytics necessary to support quick decision-making and improved performance
- Reveal the talents of today to train the workforce of the future

## SUSTAINABLE INNOVATION & EXCELLENCE:

- LEAD-TIME in performing and producing, leading to BUSINESS ACCELERATION
- EFFICIENCY and optimization of people's time
- ROBUSTNESS as a guarantee to meet the target and the on-time delivery

## 6/ CUSTOMER STORIES: VESTAS – ONE GLOBAL FOUNDATION FOR OPERATIONAL EXCELLENCE

**Christian N. REVENTLOW, Head of Vestas Manufacturing Systems, Vestas**

**A global wind energy leader providing best-in-class solutions: design, manufacturing, installation, and service of wind turbines. Major business challenges:**

- Fast-development of the industry & the products, growing demand
- A need for flexibility & agility across 79 countries and 23 sites

**Since 2014, a journey towards operational excellence with Dassault Systèmes:**

- DELMIA Apriso deployed as one global and flexible solution in 20+ sites providing a platform for global development of all factories, supported by strict governance
- Dassault Systèmes as a business partner, a business program rather than IT program

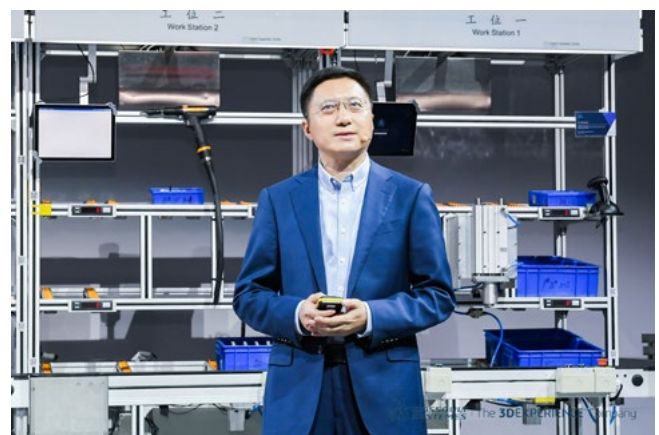
**A 3-year roadmap that will be updated and extended in order to support Vestas' future growth.**



## 7/ CUSTOMER STORIES: CHINA AEROSPACE SCIENCE AND TECHNOLOGY CORPORATION (CASC) AN INTRODUCTION TO SENRUAN INNOVATION CENTER

**M. Mingli LV, Vice General Manager of Business – Beijing Shenzhou Aerospace Software Technology Co., Ltd**

With the theme of “implement innovation-driven development strategy and promote business model transformation and upgrading” and based on effective practices of independent innovation in CASC, a leader in the high-end equipment manufacturing field, the Innovation Center of Beijing Shenzhou Aerospace Software Technology Co., Ltd. focuses on the digital and intelligent transformation of manufacturing to build up a demonstration base for aerospace intelligent manufacturing engineering verification and business experience.



The **3DEXPERIENCE**® platform is a platform for comprehensive application and innovation providing to end users and partners with engineering verification, business experience, collaborative working, R&D, cloud delivery & service.

The Sino-French joint innovation labs are built together with Dassault Systèmes and demonstrate how to use the **3DEXPERIENCE**® platform as an operating system and as a business model, serving sustainable innovation & excellence, creating value networks



and changing the way of working and collaborating.

## 8/ PANEL DISCUSSION – MANUFACTURING TRENDS

**Pr. Li ZHENG, Professor, PhD Supervisor and Vice President of Tsinghua University**

**Dr. Michael GRIEVES, Executive Director of the Center for Advanced Manufacturing and Innovative Design (CAMID), Florida Institute of Technology**

**Laurent CHAMPANEY, President, Ecole Nationale Supérieure d'Arts & Métiers**

### Major Manufacturing trends observed and confirmed:

- Digitalization & virtual models, additive manufacturing, product lifecycle from design to disposal, digital continuity, data protection, new ways of communication and collaboration
- Impact of technologies: augmented reality will be a human and social revolution, manufacturers will have to leverage virtual models to improve real products, digital will enable lean improvement



### Recommendations for companies to stay ahead of the game:

- Choose the right technology at the right moment to implement
- Break silos and dare to transform at scale to ensure value creation
- Manage data and ensure workers are aware and trained to do it

### Workforce of the Future: new skillset, new way to learn and train in both academics and business

- Fundamental skills for tomorrow: Innovation, critical thinking, problem solving, judgment and decision making and smart data intelligence
- Rethinking academics: more integrative, more engaging, more collaborative, more open
  - Constant retraining and collaborative projects between universities and businesses
  - Integrated and digital tools to ensure that workers are well-prepared, mindset-ready and trained:
    - Ex: Arts & Métiers & **3DEXPERIENCE®** platform > in 2019, all students and academic staff at the institution will have a 3D Personal Experience license

### New Ecosystems of value have to be compatible across organization, culture and technology

- A growing number of companies involve startups & students to foster creativity, unleash innovation, improve efficiency and find new ways of doing business
- Supply Chain becomes a Value Network, fueled by real-time information and data shared by all actors
- Product as a service & Service as a product – Coopetition & collaboration – Flexibility & agility

## 9/ CONCLUSION

**Bruno LATCHAGUE, Senior EVP, Global Brands, Indirect Channels for Value and Volume, Global Field Operations Americas, Dassault Systèmes**

**Dassault Systèmes is a key player in the Manufacturing Industry.**

**With the 3DEXPERIENCE® platform, we are a game-changer, leveraging our capacity to reinvent manufacturing**

- We have vision & the strategy (Industry Renaissance, V+R)
- We have the solution (**3DEXPERIENCE®** platform and **3DEXPERIENCE®** Twin)
- And we have many customer cases, from many industries, to prove that this is real and that it works

### We are unique:

- Because we help our customers to create the experience of the ideal plant before starting to implement it, even to design it

- With the **3DEXPERIENCE®** Twin of the plant, we are not connecting equipment; we totally change the way to generate value throughout the network, leveraging virtual world to improve the real world, driving performance and elevating the workforce

**With the 3DEXPERIENCE® platform, companies from all industries can achieve a successful transformation in the era of Industry Renaissance.**

**We will reinvent manufacturing with all of you**, key players from the manufacturing sector, experts, global companies, academics and innovators from all over the world...

It is a first step towards our purpose to imagine sustainable innovations capable of harmonizing Product, Nature & Life.

## DAY 2

### 1/ SHIPYARD VISITS

**Jiangnan Shipyard (Group) Co., Ltd: visiting a real plant to discover a strategy for Digital Shipyard**

**Digital Shipyard** lies at the core of the strategy for Marine & Offshore companies in China.

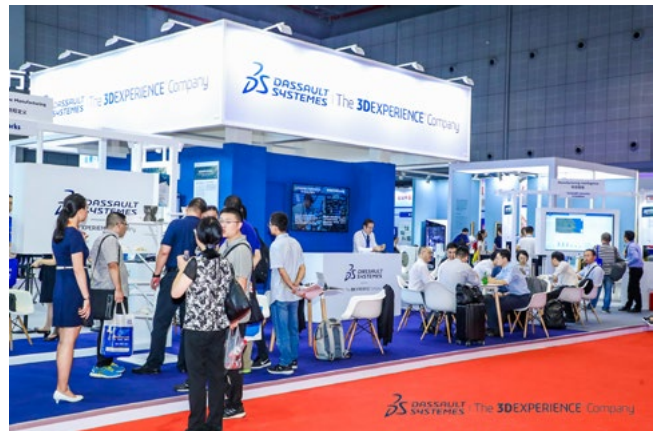
Jiangnan Shipyard has started a journey towards becoming a Digital Shipyard from Manufacturing Engineering to Manufacturing Execution with the **3DEXPERIENCE®** platform.

An experience to understand their initial scope, their strategy, their updated status and the path they are targeting towards becoming a digital continuity and model based enterprise.

### 2/ CIIF GUIDED TOUR

**Understanding the main trends of the Chinese Manufacturing Ecosystem**

An exclusive guided tour of the 20th **China International Industry Fair**, tailored for Dassault Systèmes' customers and partners. A comprehensive journey exploring the future of Manufacturing within the Chinese industrial ecosystem. Huawei, China Aerospace Science and Technology Corporation, China Electronic Technologic Group and China Shipbuilding Industry Corporation have successfully started **their journey of the digital transformation** to bring disruptive innovation in their respective markets.

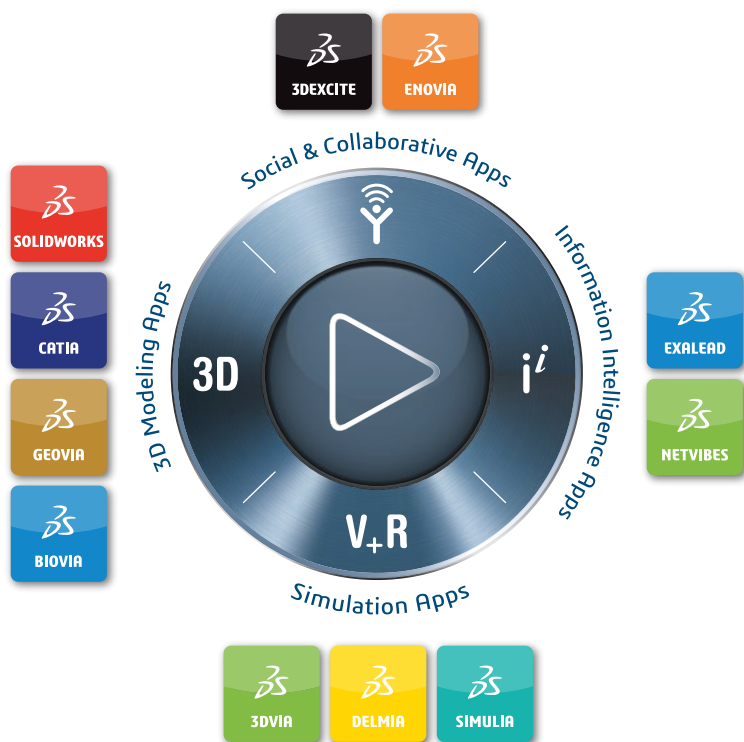


### 3/ BUSINESS VALUE ASSESSMENT

**Meet with our experts to evaluate your challenges and create opportunities**

The Dassault Systèmes Manufacturing Consulting team met with companies to identify the specific value Dassault Systèmes solutions could generate for their manufacturing organization.

Private Sessions with a Manufacturing Consultant discussed topics with representatives that included the organization's financial performance, manufacturing maturity, and which high level solution approach would best suit their organization's needs. It was also an opportunity to debate topics such as how to quantify benefits, which improvements to expect, and likely ROI achieved by leveraging Dassault Systèmes solutions.



Our **3DEXPERIENCE®** platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE®** Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 210,000 customers of all sizes in all industries in more than 140 countries. For more information, visit [www.3ds.com](http://www.3ds.com).

#### Europe/Middle East/Africa

Dassault Systèmes  
10, rue Marcel Dassault  
CS 40501  
78946 Vélizy-Villacoublay Cedex  
France

#### Asia-Pacific

Dassault Systèmes K.K.  
ThinkPark Tower  
2-1-1 Osaki, Shinagawa-ku,  
Tokyo 141-6020  
Japan

#### Americas

Dassault Systèmes  
175 Wyman Street  
Waltham, Massachusetts  
02451-1223  
USA

**DASSAULT SYSTEMES** | The **3DEXPERIENCE®** Company