

BOAO FORUM FOR ASIA
Global Economic Development and Security Forum
October 18-20, 2021 Changsha, Hunan Province, China
PANEL SESSION - Manufacturing: "Made in Asia" the Smart Way
Tuesday, October 19, 2021 | 10:45 – 12:00 am

Contribution ANNETTE NIJS

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Good day,

It is my honor to speak to you at this session "Manufacturing" "Made in Asia the smart way" as part of this Boao Forum for Asia in Changsha. Changsha, a city renowned for its manufacturing base and its drive to be the frontrunner in smart manufacturing. In Europe we also know about your 三一重工 SANY and 中联重科 Zoomlion. It was my pleasure to speak at the 2019 Global High-End Manufacturing Summit here in Changsha, some two years ago. I am glad to be back.

In lieu of the time let me zoom into the two specific topics of the panel right away: what is smart manufacturing and what can China learn from advanced manufacturers globally.

The first: what is smart?

Smart manufacturing or industry 4.0, to me, is manufacturing using the latest generation intelligent technology to manage processes and data. Additive manufacturing and Manufacturing-As-A-Service both, by definition are two ways of smart manufacturing.

The second: what can we learn from advanced manufacturers globally?

Let me give you a few pointers, which you may want to further discuss in the panel session.

1. The most crucial skill in additive manufacturing is the ability 'to turn data into things and things into data'. This requires talented data specialists. And this is true for all smart manufacturing. But we need more new skills like engineers in advanced mechatronics, robot dynamics and sensor development; talent to programme smart equipment and machinery, experts in system thinking and so forth. Building the right talent pool, to me, is THE challenge of manufacturing of the future. It is one of the most difficult and yet most important activity to get smart manufacturing right for society, right for the city, right for the people.

2. Advanced manufacturing will receive significant funding from governments not only because of the major role in transitioning towards high-end manufacturing. My expectation is that 3D printing or advanced manufacturing may play an important role in Europe in reaching the goals of current climate agreements. Printing materials allow for production processes, which are resource efficient, whereby the right quantity of materials and the most environmentally friendly materials can be used. This drastically reduces total manufacturing waste and relieves the pressure on scarce resources. This way of 'green manufacturing' will be high on the agenda for years to come.

3. Beelse, is a well-known successful French MaaS champion. It arranges online on-demand production in locations around the world. Such a tool could be redesigned for Changsha's manufacturing companies for them to arrange on-demand production in different locations in Hunan Province and/or other Chinese provinces. The advantages are clear: no supply chain disruptions, reduced costs, flexible specialization to satisfy individual customers or mass customized production are easily done. My observation is that the biggest advantage though may lie in the fact that the company has more scope to do what it really needs to do: to focus on the development of even smarter technologies – an activity which determines if a company can stay ahead of the competition in the 4th industrial revolution, during which every company is doing its best to be the fastest and smartest in transitioning its business.

There are so many more lessons to learn, allow me to say a few words on the context in which smart manufacturing is taking off: the 4th Industrial Revolution. In such a world, we need a few 21st century model for technology transfer based on collaboration: with a coalition of the willing, where technology is shared by consent in a safe and trusted ecosystem.

Like Siemens, Kawasaki and Alstom, who shared the technology for the now famous bullet trains here in China. And what a joy to ride in them.

Like the many national Startup Ecosystems whereby governments supports innovation which strengthens economic growth and at the same time contributes to societal challenges such as sustainability, energy transition, food security, healthcare and safety.

One example of the latest approach, which I am very familiar with, is TechLeap.NL, supported by the Dutch Ministries of Economic Affairs and Education Culture & Science. His Royal Highness Prince Constantijn van Oranje, the brother of the Dutch King Willem Alexander is TechLeap.NL's Special Envoy.

Allow me to express my humble view that such an approach might be very relevant for Changsha – especially when such an ecosystem is focused on Manufacturing- As-A-Service and Additive Manufacturing whereby small innovative companies team up with larger current manufacturers in Changsha. Some academics call this 'dancing with gorillas': nimble state of the art new generation tech companies are dancing, working closely, with large manufacturing companies to accelerate and shape-up the high-end manufacturing of these gorilla's.

Let me call this ecosystem the 'Changsha High End Manufacturing Park'. The Center itself could help startups to collaborate with the larger manufacturing companies in Changsha in order to grow rapidly; the Center could facilitate real breakthrough technology development and proto-type building; the city of Changsha can even build a Sino Europe high-end manufacturing tech bridge, which brings European high-end-manufacturing tech companies technology to Changsha. One way of selecting which European tech champions are the best candidates to come to Changsha, is to organize a Sino Europe business competition, for example with an award ceremony in one of Europe's top manufacturing tech cities: Stockholm, Copenhagen or Berlin.

Such a Sino Europe high-end manufacturing tech bridge could not come at a better time. The EU is developing a new future for manufacturing in Europe aimed amongst others at Advanced Industrial Robotics (AIR); Additive Manufacturing (AM) and Industrial Internet of Things (IIOT). Germany is one of the top three countries – alongside China and America – who invest the most in additive manufacturing. EOS from Germany is a global leader in additive manufacturing, especially in industrial printing, metal printing, plastic printing. I expect a lot of energy in the development of game changing high-end manufacturing solutions in selected local hot tech spots in Europe.

And wouldn't it be marvelous when some of these European new generation high-end manufacturing tech companies will start dancing with the manufacturing gorilla's like 博云新材 Boyun New Materials or 蓝思科技 Lens Technology in addition to 三一重工 SANY and 中联重科 Zoomlion, here in Changsha? I think so.

Thank you.
