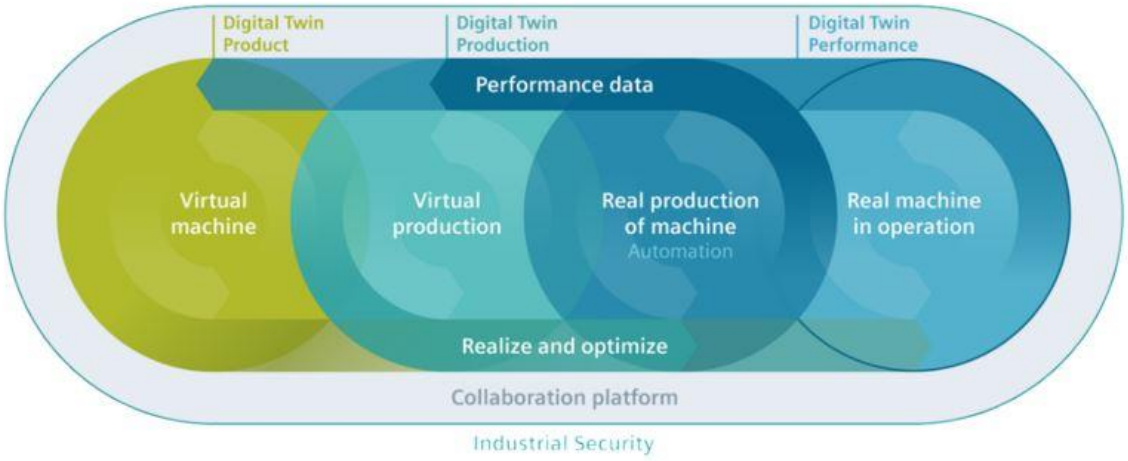
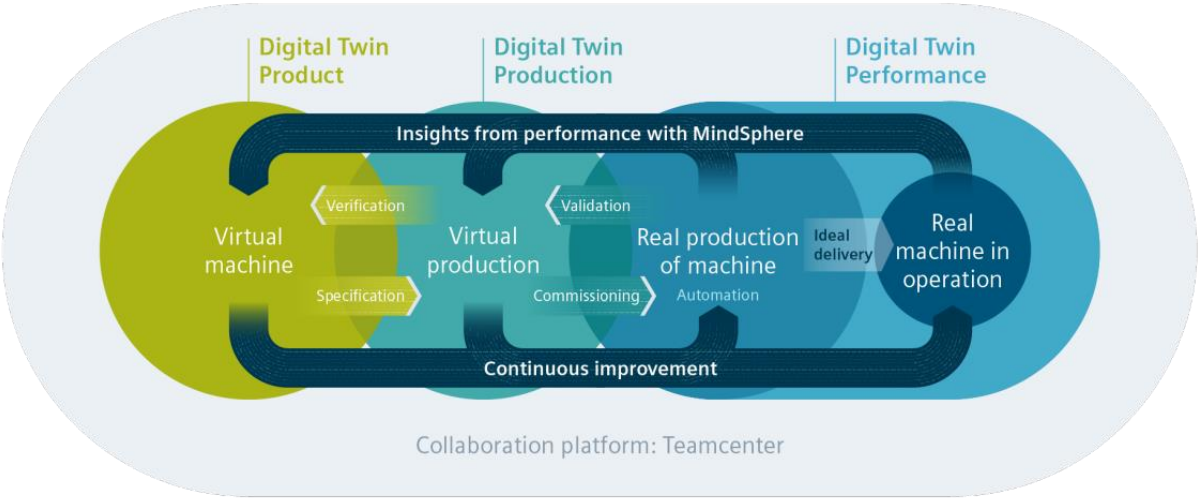
VIDEO LINK Siemens Webinar

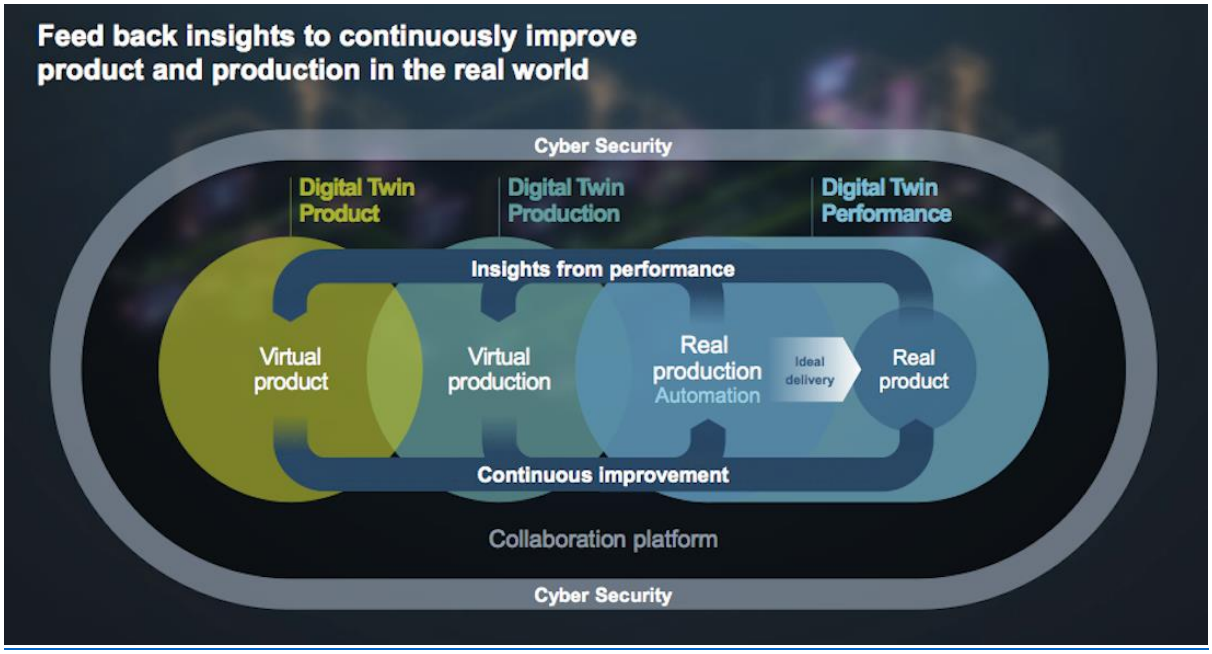
https://vimeo.com/648210297

https://www.techdesignforums.com/blog/2019/04/26/the-evolution-of-the-digital-twin/



Digital Twin Ties Together All Phases of the Manufacturing Process, from Design to Shop Floor Operations (Siemens Graphic)





First, there is the digital twin of the product. This is a complete representation of the product in a virtual environment. It encompasses the shape, the mechanical elements, the components, the electronics and the software. “But,” said Jockusch, “it is also the ideas that are behind the product – the things it has to do as well as the decisions that are made when you come up with the product.”

Second, there is the digital twin of the production. This begins as a virtual form of the factory and the processes that it runs (or will run) to make the product, enabling production simulation at its most basic level. “When you want to make changes to a product, it is really important to understand how the manufacturing process works,” explained Jockusch. “What impact will the changes to the product have on the cost of the manufacturing, in time and other factors?”

Third, there is a hybrid level as the product goes into the real factory. Here, the virtual and physical versions of the process can interact in real-time for monitoring, and continuous improvement. There are now options to move between simulation and real implementation.

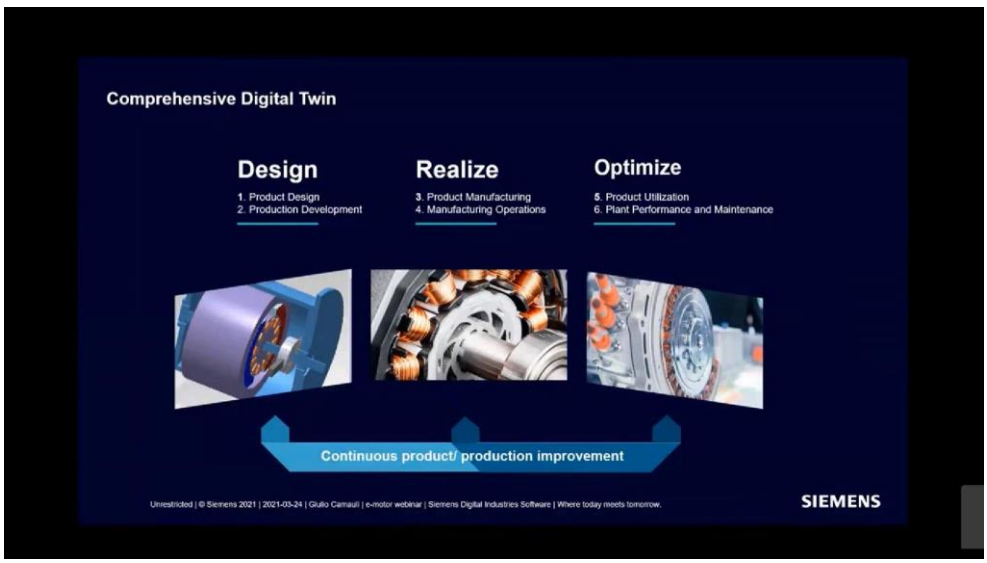
Fourth, there is the digital twin of the performance, as the product goes out into the field. “Nowadays, a product produces terabytes of data, and there is going to be 5G [to deliver it]. There is much of that data that we want to bring back because it can seed every step from development to manufacturing. This makes for a big change in how we can work and for productivity.

Fifth, there is the necessary wrapper of security protecting both the product and the process by which it is delivered and improved.

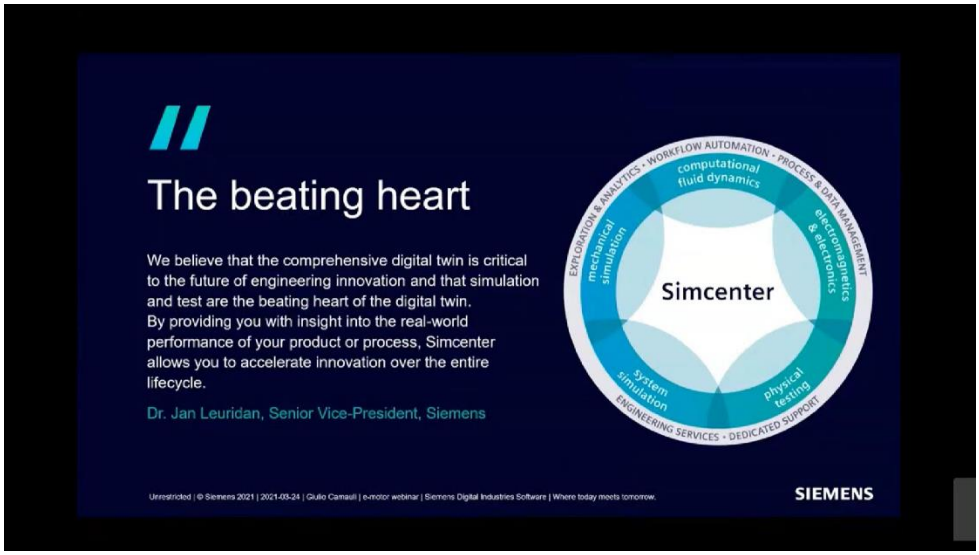
04:30 **TRENDS + FUTURES**

6:35 mins **EXPLOSION OF COMPLEXITY**

07:00 mins **- DIGITALISATION + DIGITAL TWIN**

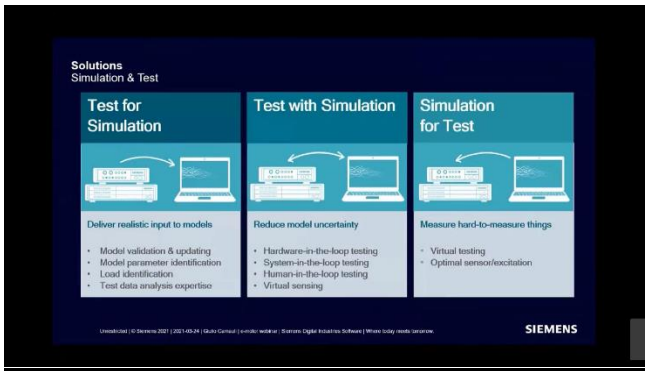


08:35 mins - **DESIGN TRADE OFFS**

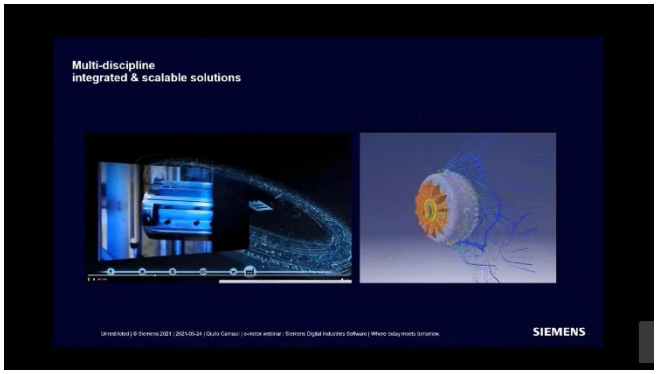


9:20 BUSINESS VALUE FROM RELIABLE DIGITAL TWINS

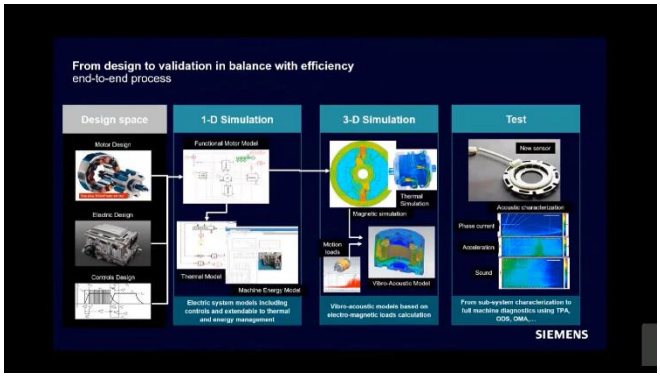
10:30 DIGITAL SIMULATION + TEST



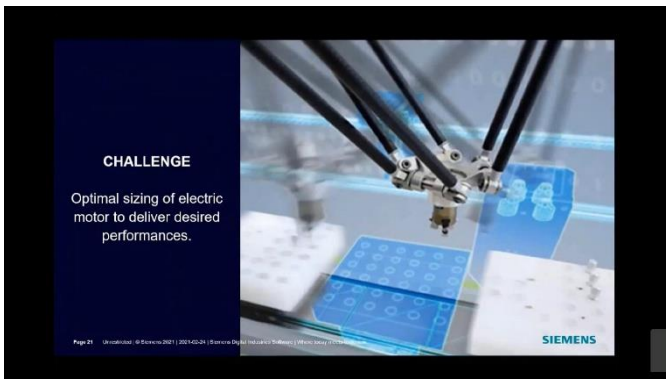
12:00 SCALABLE + INTEGRATED SOLUTION PROCESS



13:30 END TO END PROCESS

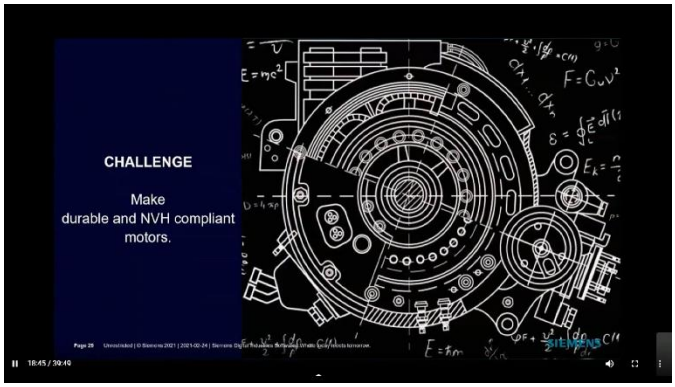


15:00 CASE STUDY 1 - MECHANICAL PERFORMANCE



17:50 CASE STUDY 2 - VIBRATION

18:45 CASE STUDY 3 - NOISE

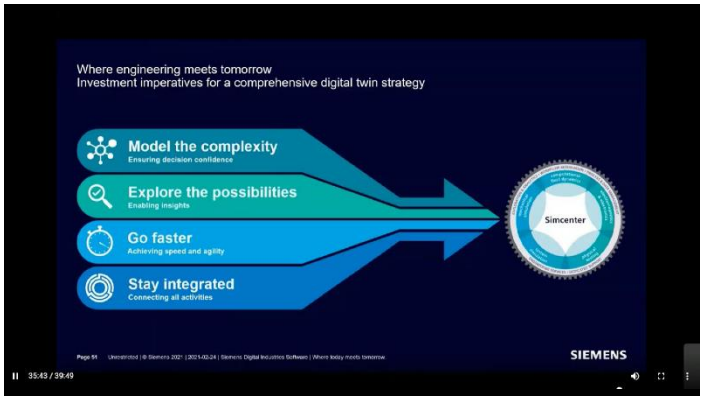


21:40 CASE STUDY 4 – ELECTRICAL PERFORMANCE

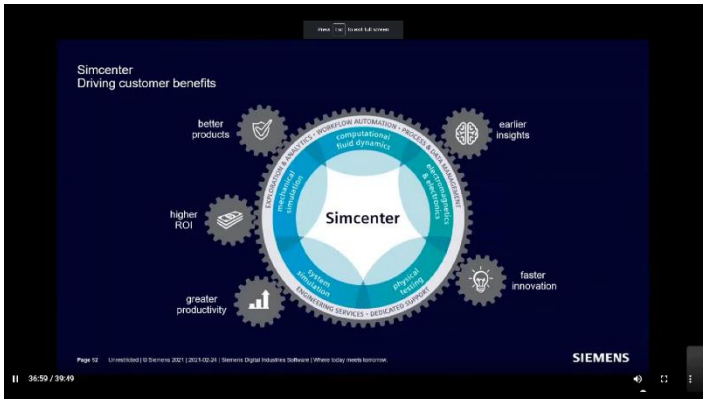
23:30 CASE STUDY 5 - END USER COMFORT

30:30 CASES STUDY 6 - MANUFACTURING QUALITY

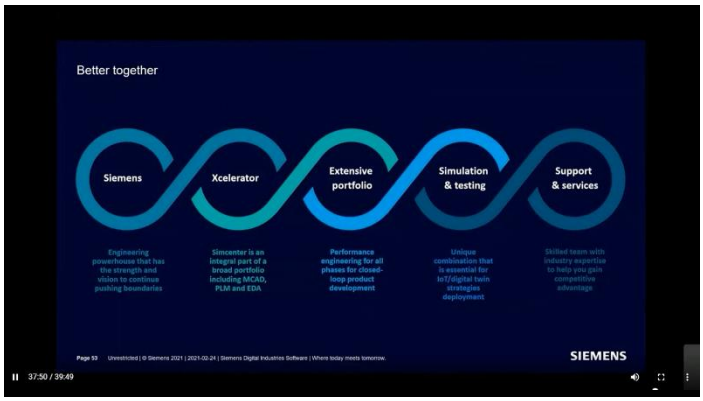
33:40 KEY PRACTICES + COMPETENCES OF ‘DIGITAL TWINS’



36:45 KEY VALUE ‘WINS’ FROM THE DIGITAL TWIN STRATEGY



37:15 INTEGRATED PROCESS AND COLLABORATION



38:30 SUMMARY - DIFFUSED SILOS – REAL TIME INTEGRATION – INTERDISCIPLINARY COLLABORATION