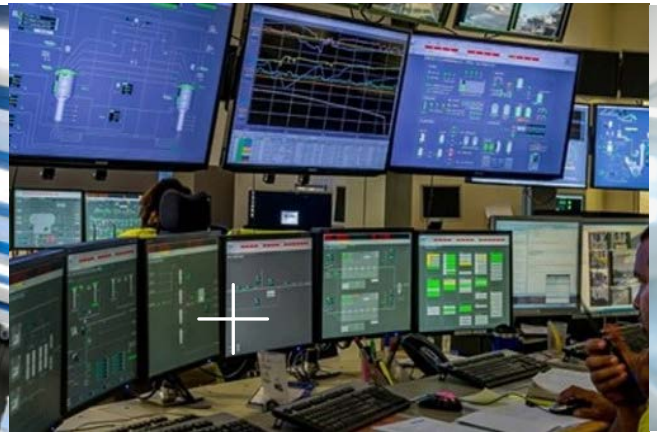
Digital Twins

Lifecycle Management & Value Delivery



Optimizing Mine Performance Through Digital Innovation Seminar, October 18, 2017

Daniel Koffler, Chief Digital Architect, Smart Industries

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What is a Digital Twin?

Picture credits: © Michael Hitoshi

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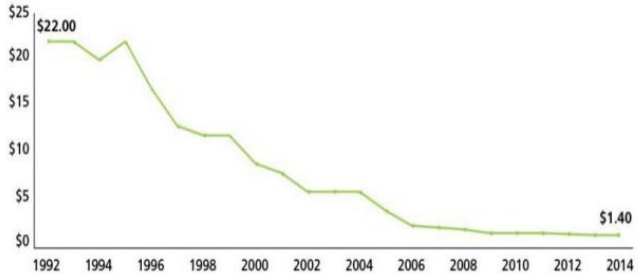
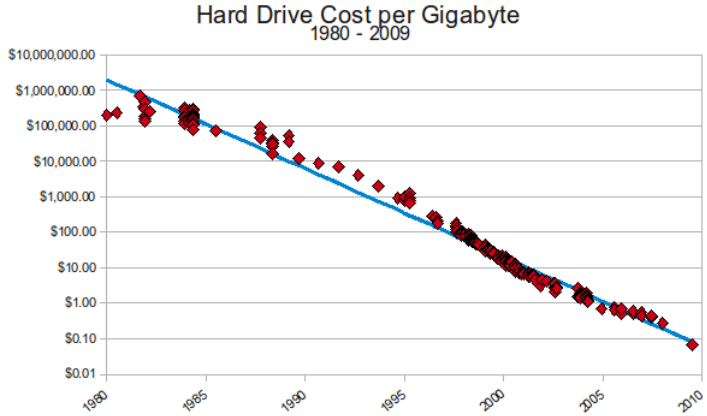
Sensors, Compute, Storage & Networking Prices over Time

Figure 5. Sensors prices on the decline over the last 25 years



Source: Rob Lineback, IC Insights Inc. "The market for next-generation microsystems: More than MEMS I," http://itac.ca/uploads/events/execforum2010/rob_lineback_10-6-10-2.ppt, June 10, 2010, accessed January 28, 2015; Lee Simpson and Robert Lamb, *IoT: Looking at sensors*, Jeffries Equity Research, February 20, 2014, p. 4.



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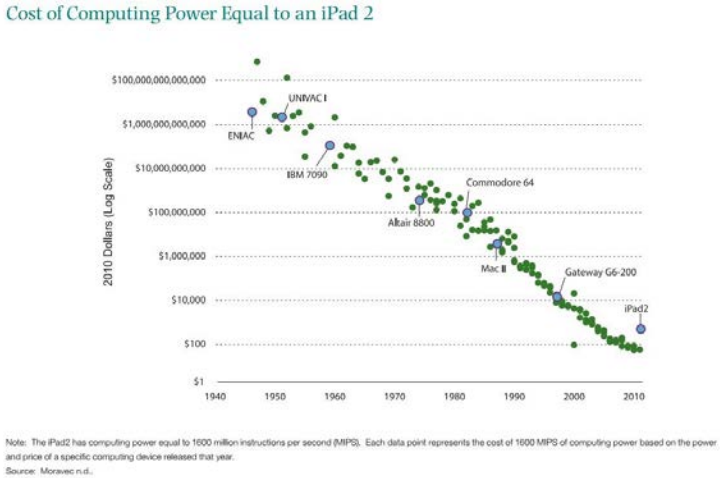
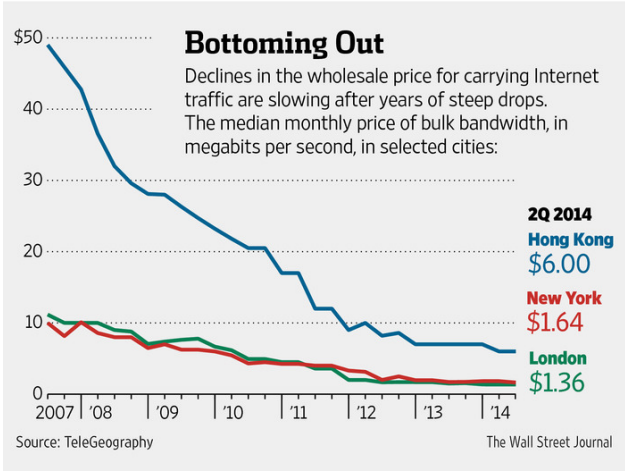
Sensors, Compute, Storage & Networking Prices over Time





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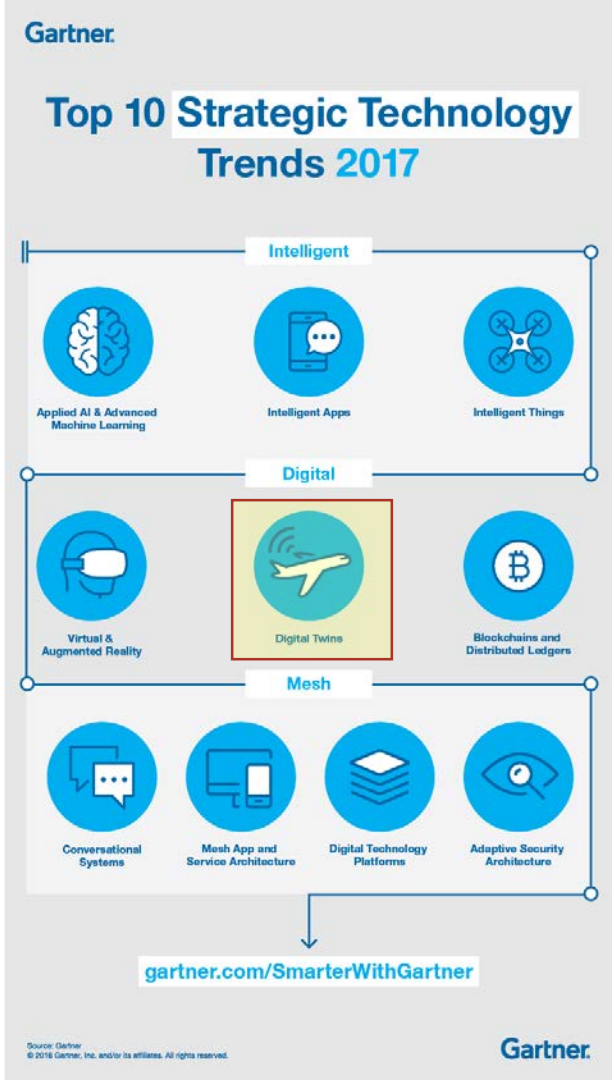

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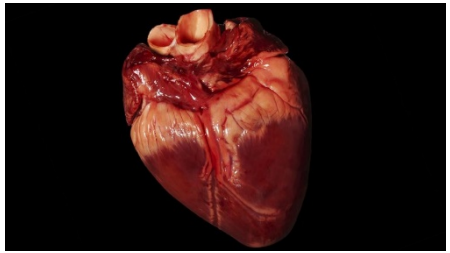
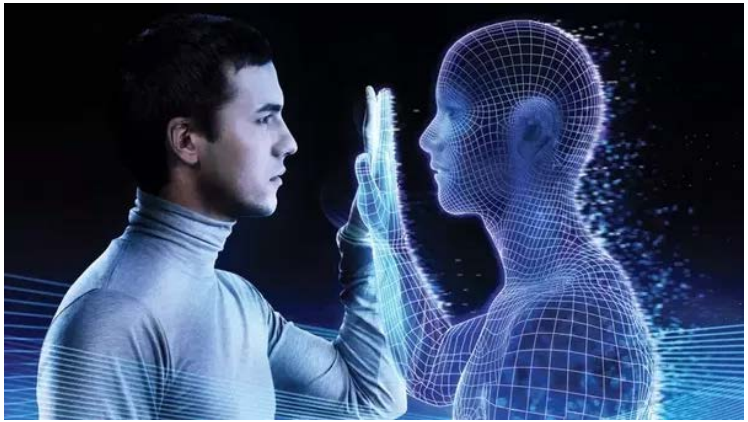
Don’t we already create Digital Twins?

– What we do well today



– What we need to learn



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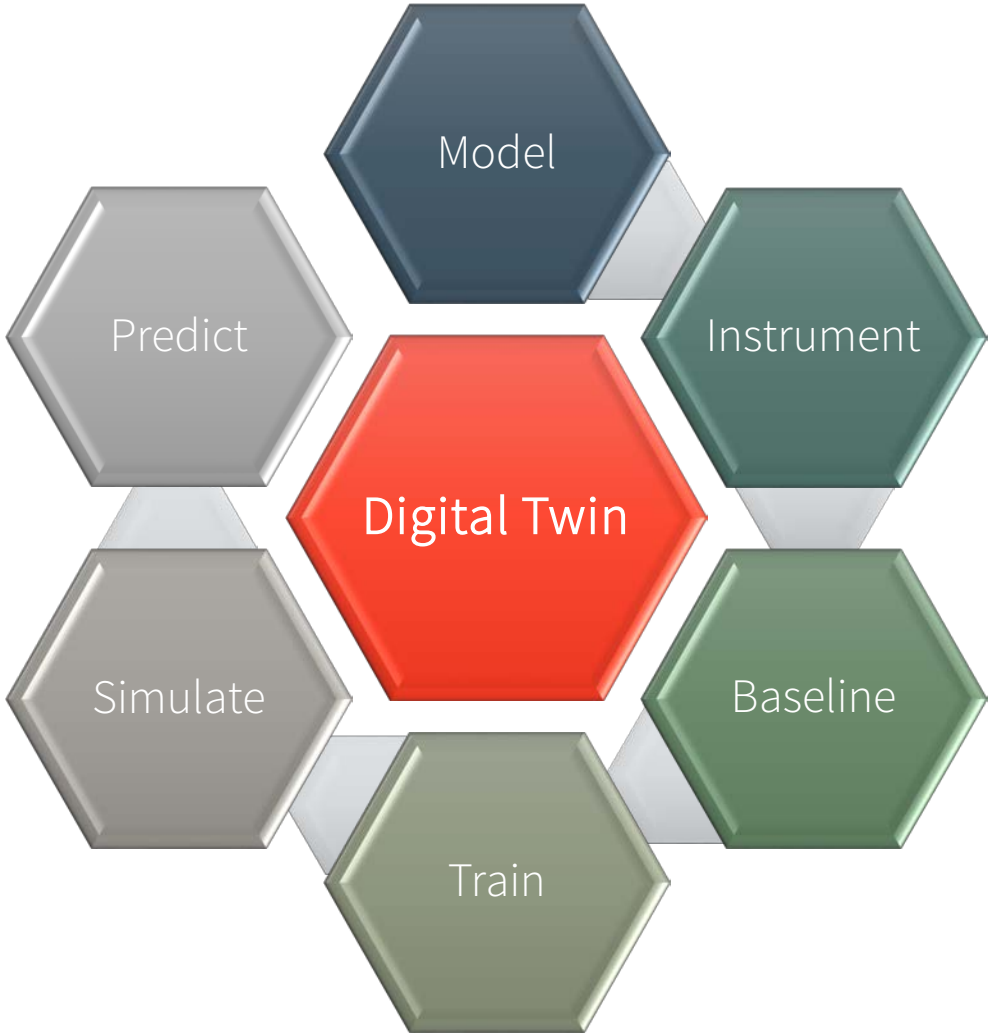
Digital Twin Lifecycle



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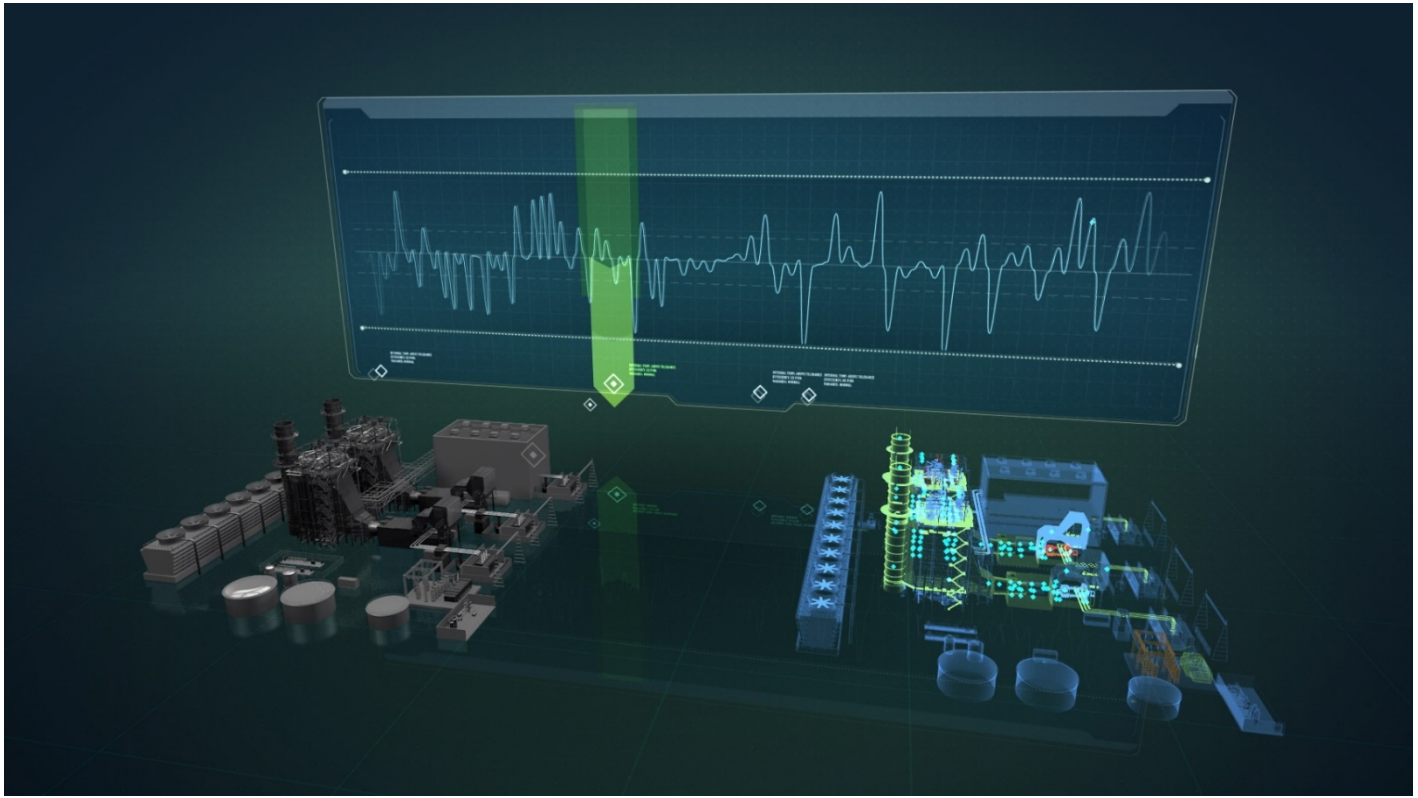
Model



Picture credits: © GE

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Instrument

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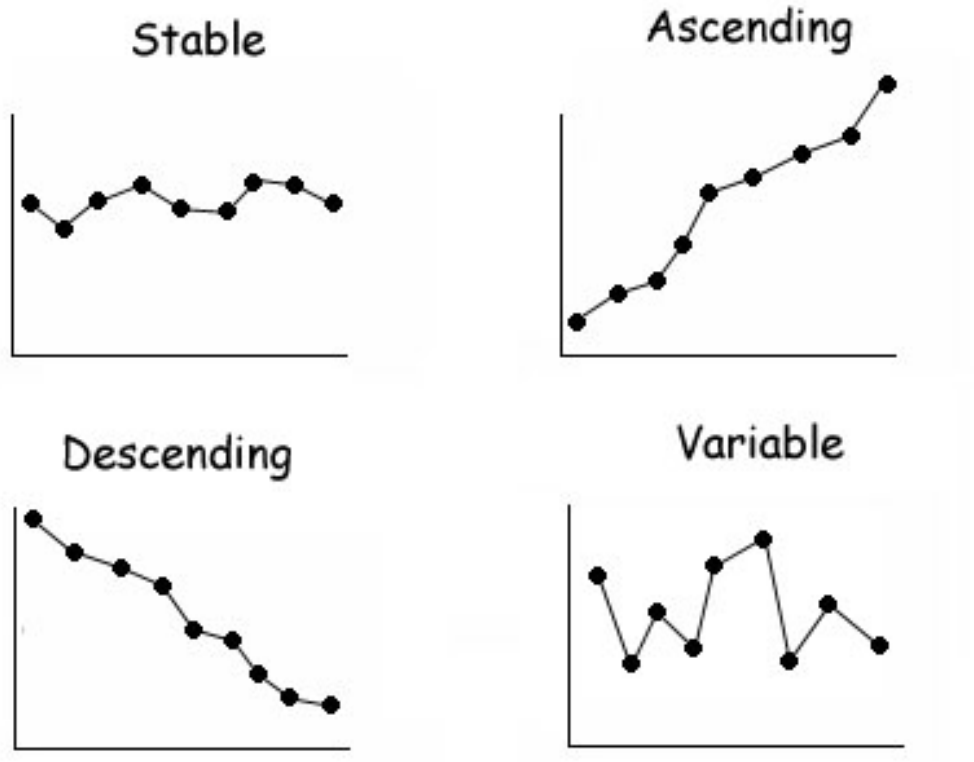
Baseline: What is normal?



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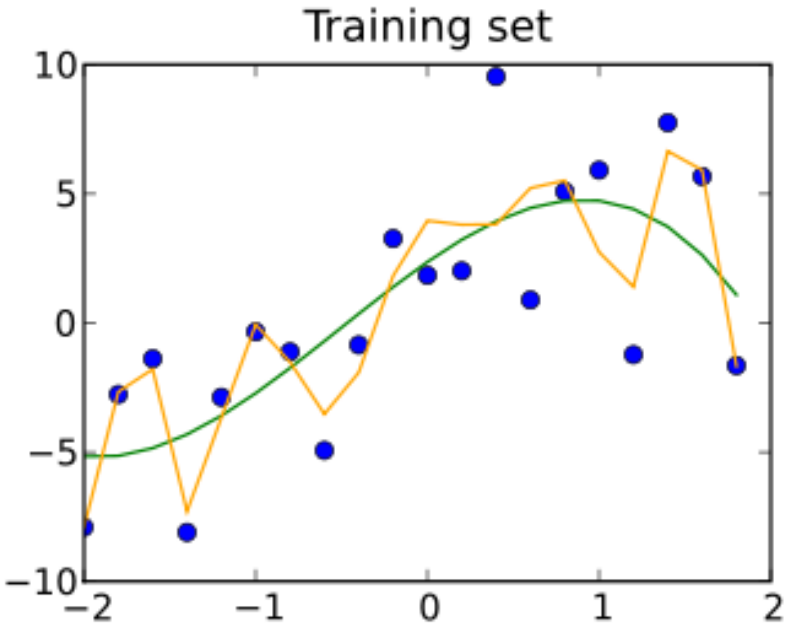
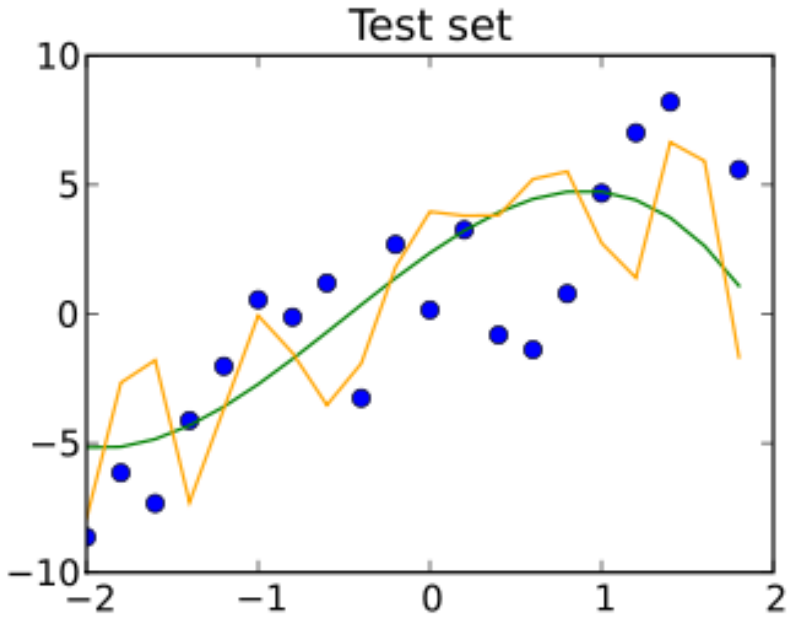
Train your model based on real world data





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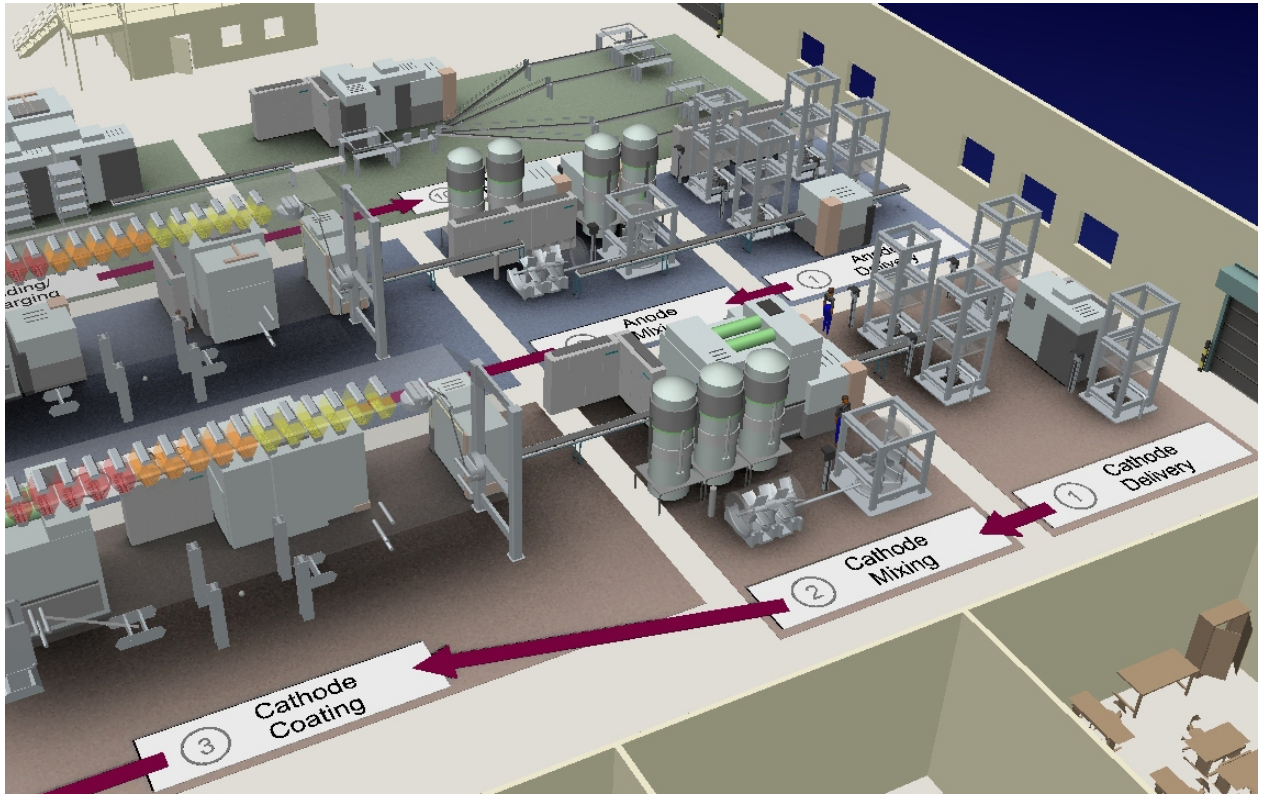
Short-path simulation



Picture credits: © Cards PLM Solutions

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Predict the Future

Picture credits: © ShutterStock

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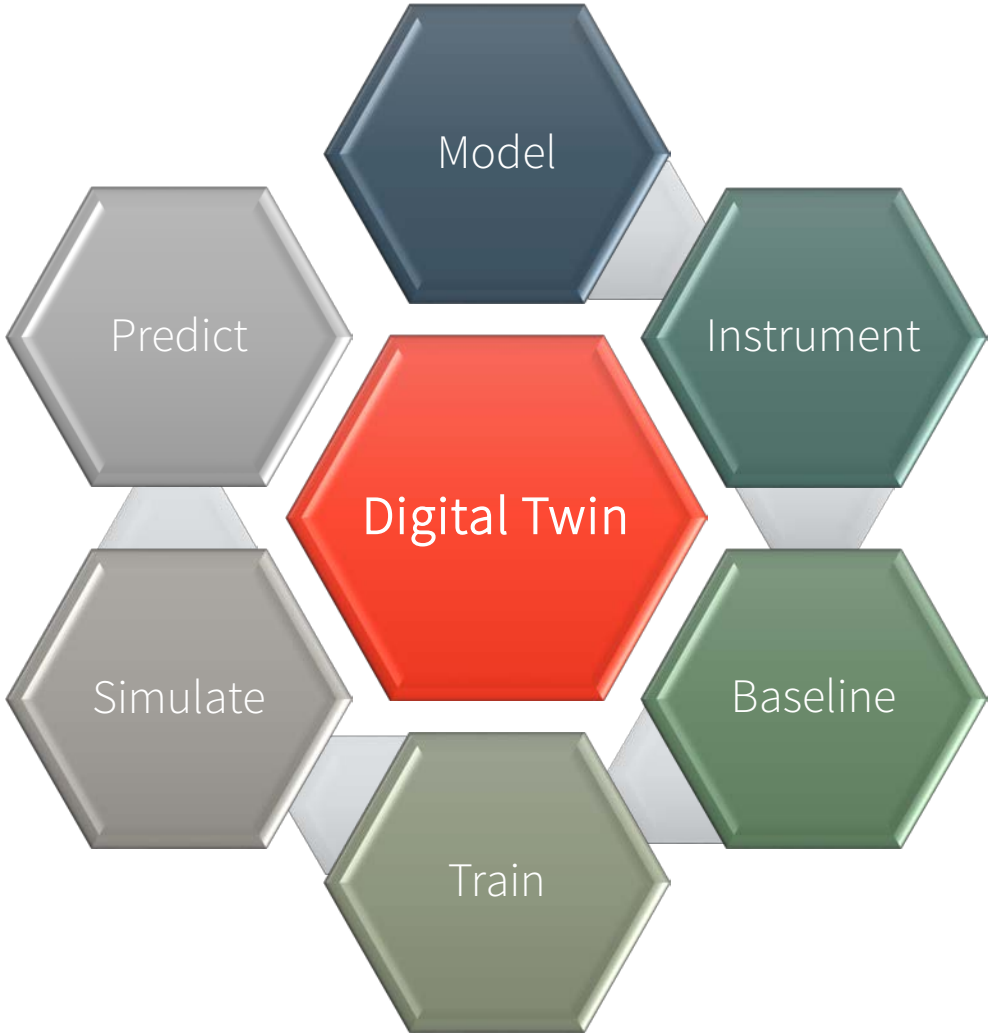
Digital Twin Lifecycle



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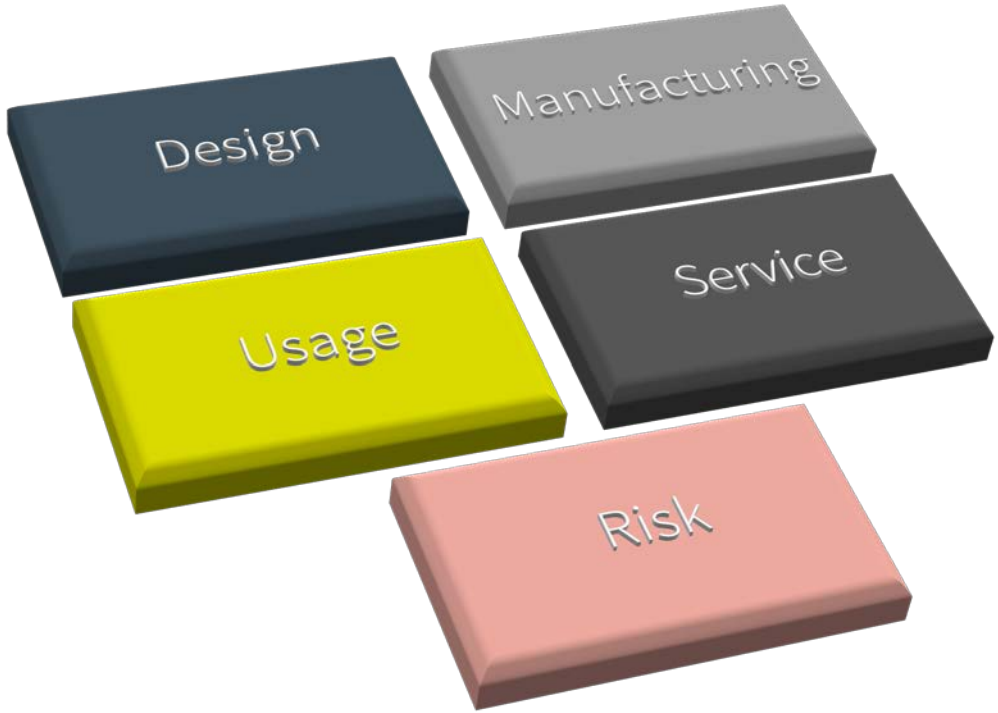
Facets of Digital Twin Value



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Thank you.

For more information,
please visit www.hatch.com
or contact Daniel.Koffler@hatch.com

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