Sharing for Agility

Mike Vogler

Don Stickel
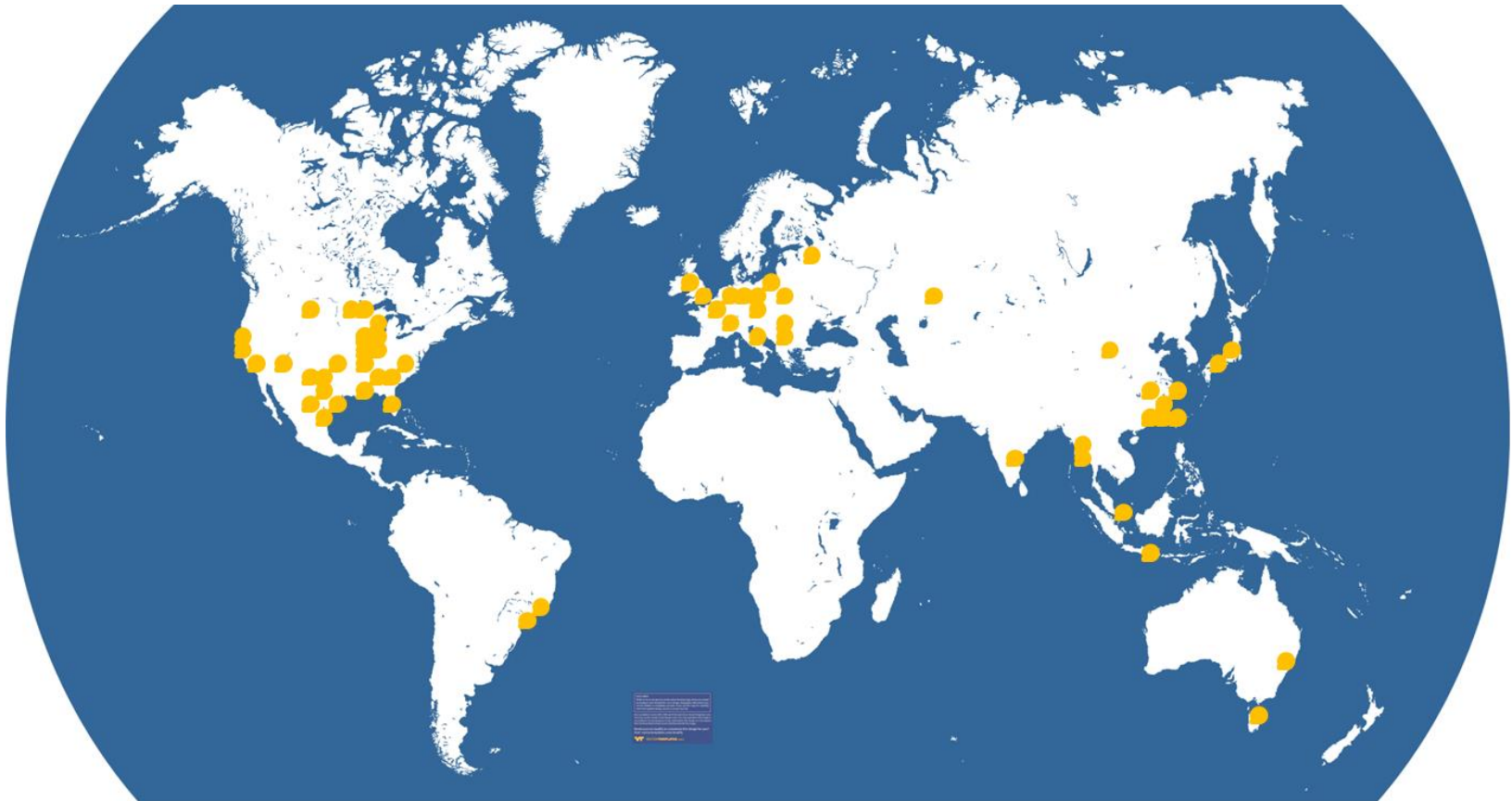
"Age of Smart Iron"
…Driving the Increasing Need for Agility

- Competitive battlefield is increasingly "outside the machine"

- Machine is a platform

- Globally responsive production capability
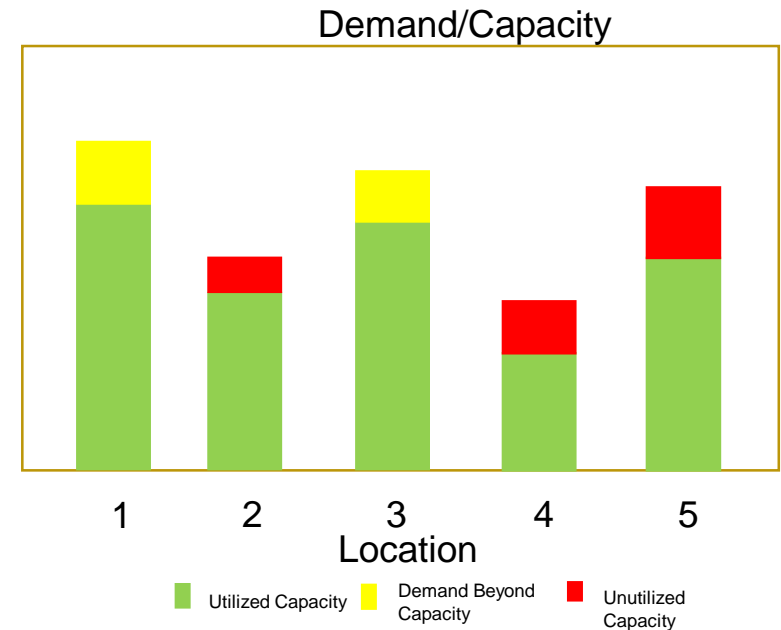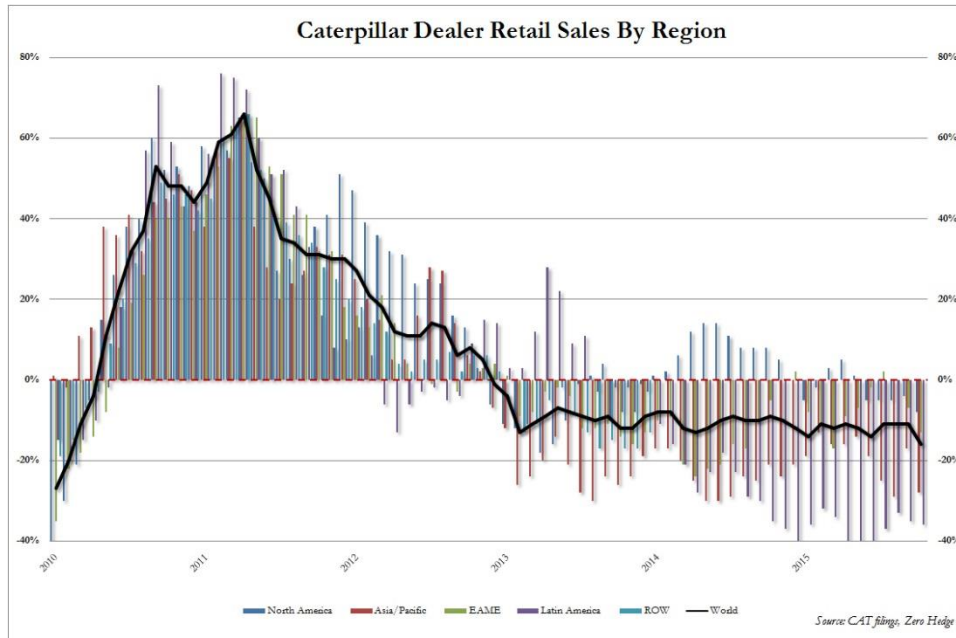
  – Product Availability is KING

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Manufacturing Footprint –
Static, does not respond to volatility

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The Market

- Constantly Changing
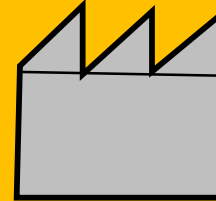- Subject to Swings in volume and region

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Increased Global Agility
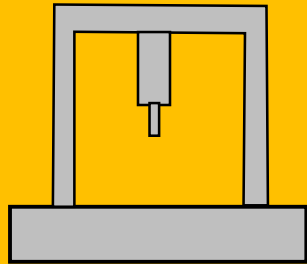## ...through "Sharing" Enabled by Technology

Workers — **Reducing training times to near zero**
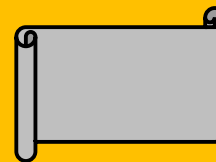
Suppliers — **Improved responsiveness and resilience**
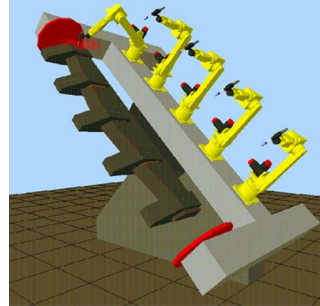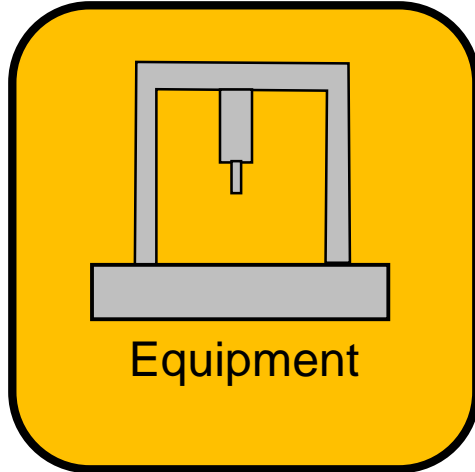
Equipment — **Massively redeployable equipment**

Knowledge — **Manufacturing engineering transformation**

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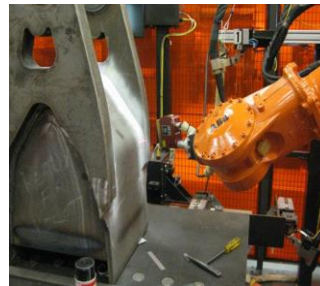
Massively Redeployable Equipment
…Supporting Incremental Capacity Investments

Equipment

Distributed, Intelligent Machines
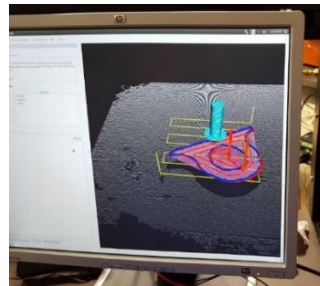
Self-Programming

Predictive performance via data analytics

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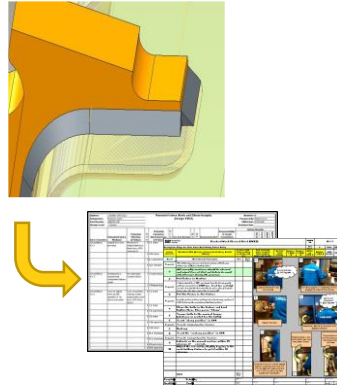# Near Zero Training Times
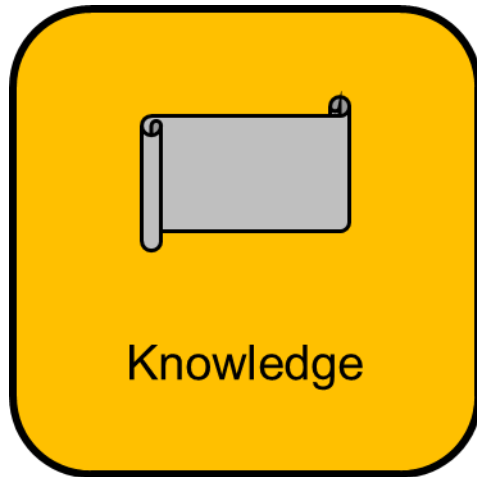## …Information Anticipating Demand

Workers

In-situ Work Instructions

Role-Based Guidance

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Manufacturing Engineering Transformation
…Efficient Knowledge Generation for Execution
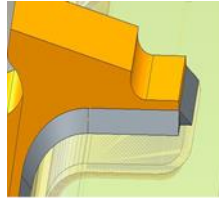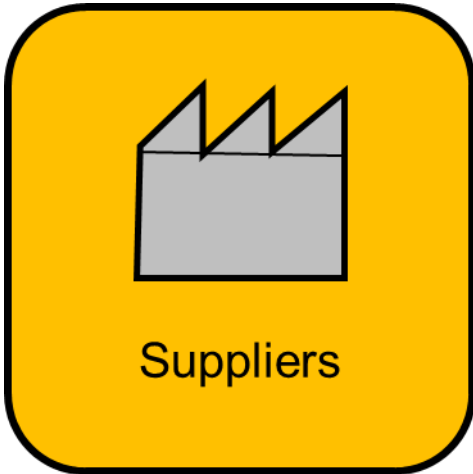

Knowledge

Automated Artifact Generation

Machine Learning

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Agile and Resilient Supply Networks
…Fully Leveraging Global Capabilities

Suppliers

	Cost	Delivery	Quality
S1	🟩	🟨	🟩
S2	🟨	🟩	🟩
S3	🟩	🟩	🟩
S4	🟥	🟩	🟨
⋮	⋮	⋮	⋮
Sn	🟩	🟩	🟥

Temporary Competitive Marketplaces

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Thank You

- Many emerging technologies can dramatically improve production agility

- Challenge for all of us
  - Deploy them at SCALE