



The great *Manufacturing* remake

Henrik von Scheel

Best known as the originator of the *"4th Industrial Revolution"* and *Digital* theme of today.

His work is applied to 19 national economies, influences GDP growth, trigger global themes, and has shaped the performance of 23% of the Fortune 500 companies.



Strategist

"Leading authority on strategy"

Financial Times

"One of the most pre-eminent strategists and advisor of his generation"

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Chairman of Alphabet

Futurist

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H.H. Sheikh Mohammed bin Rashid Al Maktoum
Ruler of Dubai

"Futurists of our century"

CNBC

Integrator

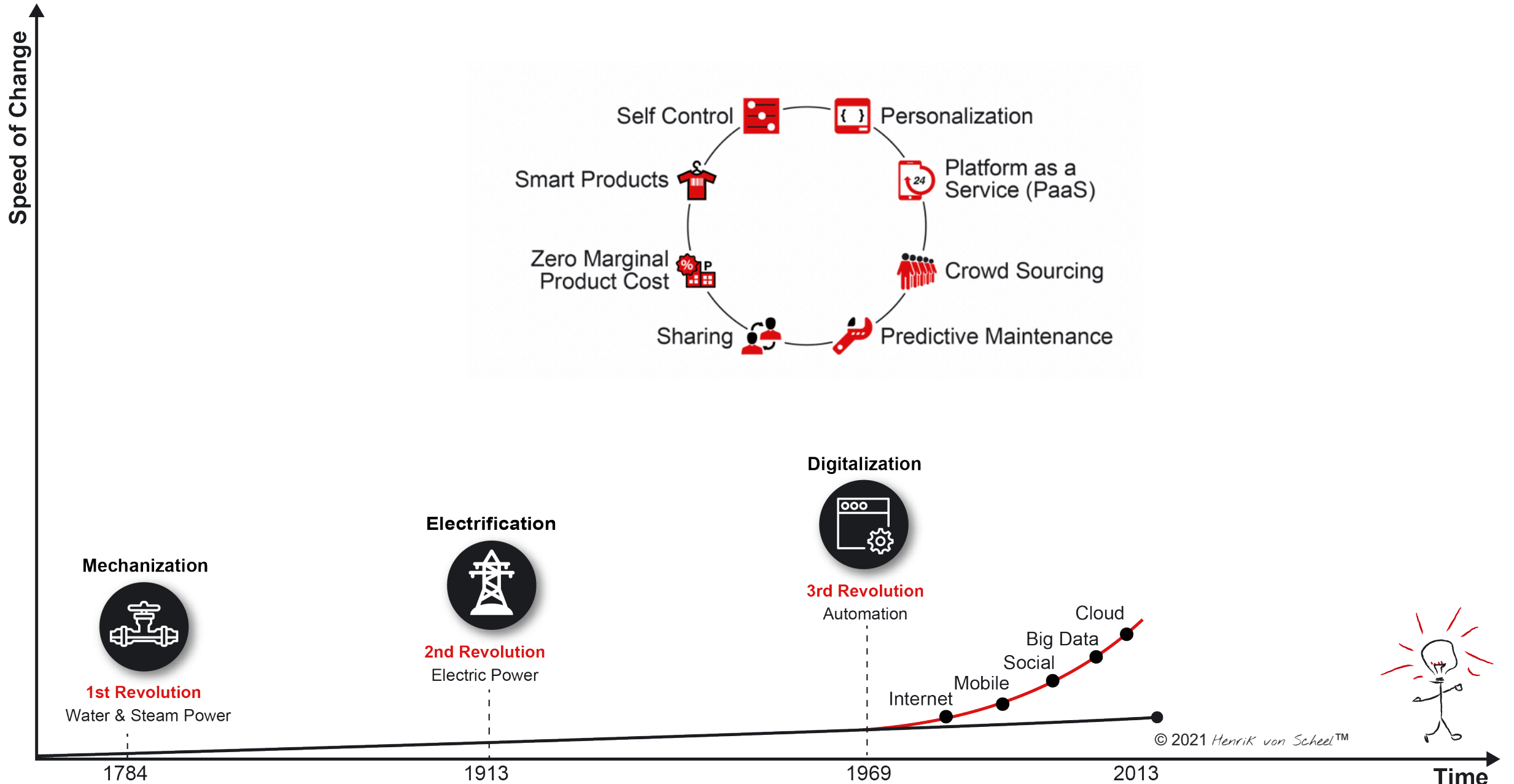
"The most influential management Guru"

Lifology
World's largest Career Guidance Program

"He has influenced more executives and nations, than any other business thinker"

Sam Palmisano
CEO of IBM

Manufacturing, - Ground zero of the 4th Industrial Revolutions



Industry 4.0 Periodic Table - the fuel that disrupts and innovates everything

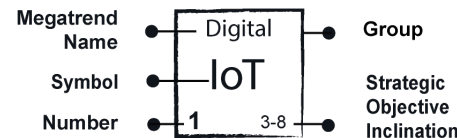
1 Digital Internet of Things IoT 3-8										2 Pollution Pn 5-8	3 Urbanization Ur 1-6,8		4 Ethical Living EI 1-2, 4,6,8					
5 Advanced Analytics Aa 3-5,7,8	6 Artificial Intelligence Ai 1-8							7 Sixth Mass Extinction Se 1,2,6,8	8 Migration Mi 3-5,8	9 Sectoral Shift Ss 1,2,6-8	10 Global Power Shift Gs 1,2,4-6,8	11 Cyber Instability Cy 2,4-8	12 Circular Economy Ce 1-8	13 Sensory Stimulation Sy 1-2, 4,6,8				
14 Cloud Computing Cl 3-8	15 Autonomous Systems As 1-8	16 Blockchain Bc 1-8					17 Mobility Mo 1-5,8	18 Population P 1-8	19 Recycling Renewables Rr 1-8	20 New Trade Routes Tr 1,2,5,6,8	21 Resource Scarcity Rs 1-4,8	22 Shift in Faith Fa 1,6,8	23 Heath & Care Hc 1-8	24 Digital Economy De 1-8	25 Radical Personalization Rp 1-2,4,6,8	26 Authenticity Au 1-2,4,6,8		
27 Augmented Reality Ar 3-8	28 Smart Automation Sa 1-8	29 Cyber Securtiity Cs 3-8	30 Quantum Technology Qt 1-8				31 Labor Market Lm 1-8	32 Conomer Protection Cp 2,6-8	33 Connectedness Co 1-8	34 Climate Change Cc 1-8	35 Footprint Fp 1-8	36 Population Growth Pg 1-6-8	37 Auto-cratization An 1-8	38 Middle Class Mc 1-6,8	39 Natural Disasters Nd 4-6,8	40 Demonetize Dm 1-8	41 Reality Merge Digital - Virtual - Physical Rm 1-2,3-6,8	42 Empowered Individual Ei 1,3-4,6,8
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Group

- Technology
- Regulatory
- Workforce
- Enviroment
- Globalization
- Demographic
- Economic
- Consumer

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Element

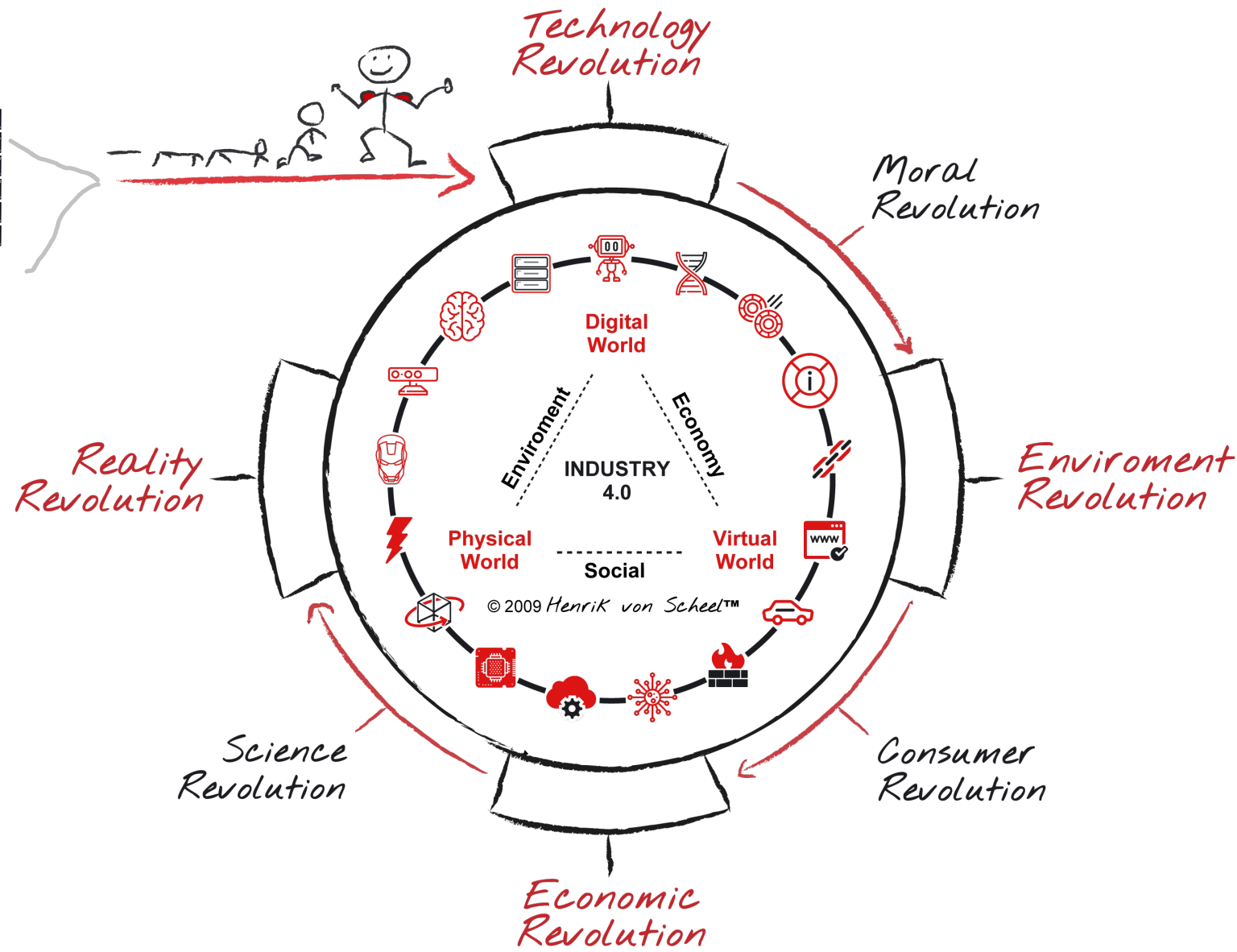


Strategic Objective Inclination

1. Growth
2. Competitiveness
3. Cost Efficiency
4. Performance
5. Operational Excellence
6. Service or Product
7. Lower Risk
8. Sustainable Dev. Goals

The 4.0 emerge in sequence of 4 metamorphosis stages, that change everything

Group	Element	Strategic Objective Inclination
Technology	IoT, AI, AR, VR, 3D printing, Nanotech, Biotech, Space, Fusion, Quantum, Blockchain, Cryptocurrency, Smart Cities, Smart Grids, Smart Homes, Smart Agriculture, Smart Transportation, Smart Manufacturing, Smart Energy, Smart Water, Smart Waste, Smart Security, Smart Defense, Smart Space, Smart Earth, Smart Ocean, Smart Atmosphere, Smart Biosphere, Smart Lithosphere, Smart Hydrosphere, Smart Cryosphere, Smart Geosphere, Smart Pedosphere, Smart Biosphere, Smart Lithosphere, Smart Hydrosphere, Smart Cryosphere, Smart Geosphere, Smart Pedosphere	1. Growth, 2. Competitiveness, 3. Cost Efficiency, 4. Performance, 5. Operational Excellence, 6. Service or Product, 7. Lower Risk, 8. Sustainable Dev. Goals
Regulatory	GDPR, CCPA, HIPAA, PCI DSS, ISO 27001, NIST Cybersecurity Framework, FIDELITY, SEC, FDA, EPA, OSHA, NHTSA, FAA, FCC, EPCRA, RCRA, CERCLA, CAA, CWA, RCRA, CERCLA, CAA, CWA, RCRA, CERCLA, CAA, CWA	
Workforce	AI, ML, DL, NLP, CV, Robotics, AR, VR, 3D printing, Nanotech, Biotech, Space, Fusion, Quantum, Blockchain, Cryptocurrency, Smart Cities, Smart Grids, Smart Homes, Smart Agriculture, Smart Transportation, Smart Manufacturing, Smart Energy, Smart Water, Smart Waste, Smart Security, Smart Defense, Smart Space, Smart Earth, Smart Ocean, Smart Atmosphere, Smart Biosphere, Smart Lithosphere, Smart Hydrosphere, Smart Cryosphere, Smart Geosphere, Smart Pedosphere	
Environment	AI, ML, DL, NLP, CV, Robotics, AR, VR, 3D printing, Nanotech, Biotech, Space, Fusion, Quantum, Blockchain, Cryptocurrency, Smart Cities, Smart Grids, Smart Homes, Smart Agriculture, Smart Transportation, Smart Manufacturing, Smart Energy, Smart Water, Smart Waste, Smart Security, Smart Defense, Smart Space, Smart Earth, Smart Ocean, Smart Atmosphere, Smart Biosphere, Smart Lithosphere, Smart Hydrosphere, Smart Cryosphere, Smart Geosphere, Smart Pedosphere	
Consumer	AI, ML, DL, NLP, CV, Robotics, AR, VR, 3D printing, Nanotech, Biotech, Space, Fusion, Quantum, Blockchain, Cryptocurrency, Smart Cities, Smart Grids, Smart Homes, Smart Agriculture, Smart Transportation, Smart Manufacturing, Smart Energy, Smart Water, Smart Waste, Smart Security, Smart Defense, Smart Space, Smart Earth, Smart Ocean, Smart Atmosphere, Smart Biosphere, Smart Lithosphere, Smart Hydrosphere, Smart Cryosphere, Smart Geosphere, Smart Pedosphere	





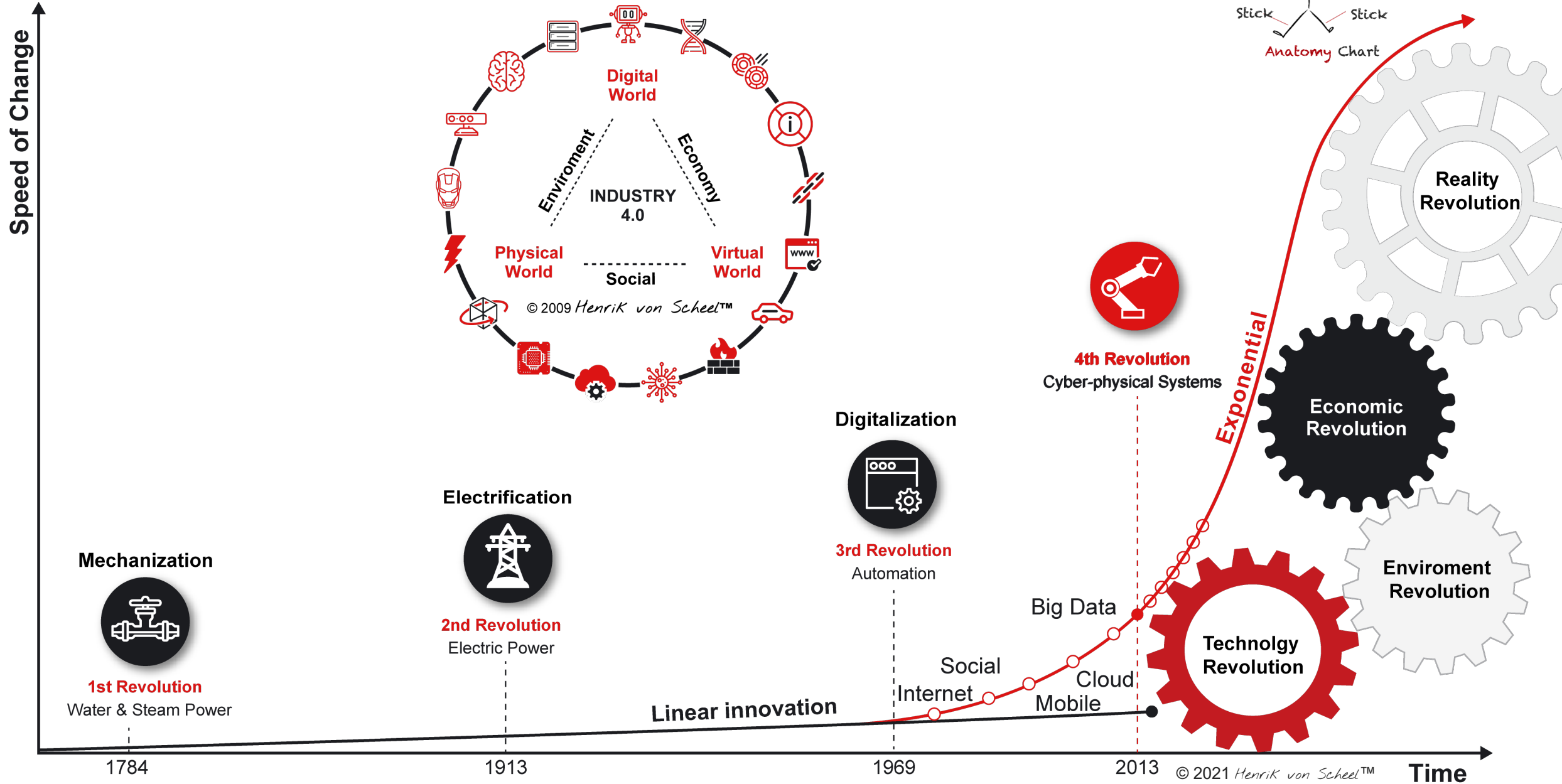
The *4th Industrial Revolution* alters every aspect of our lives, our economy, how we live, consume, work, and relate to one other.

Unlike anything human kind has experienced before.

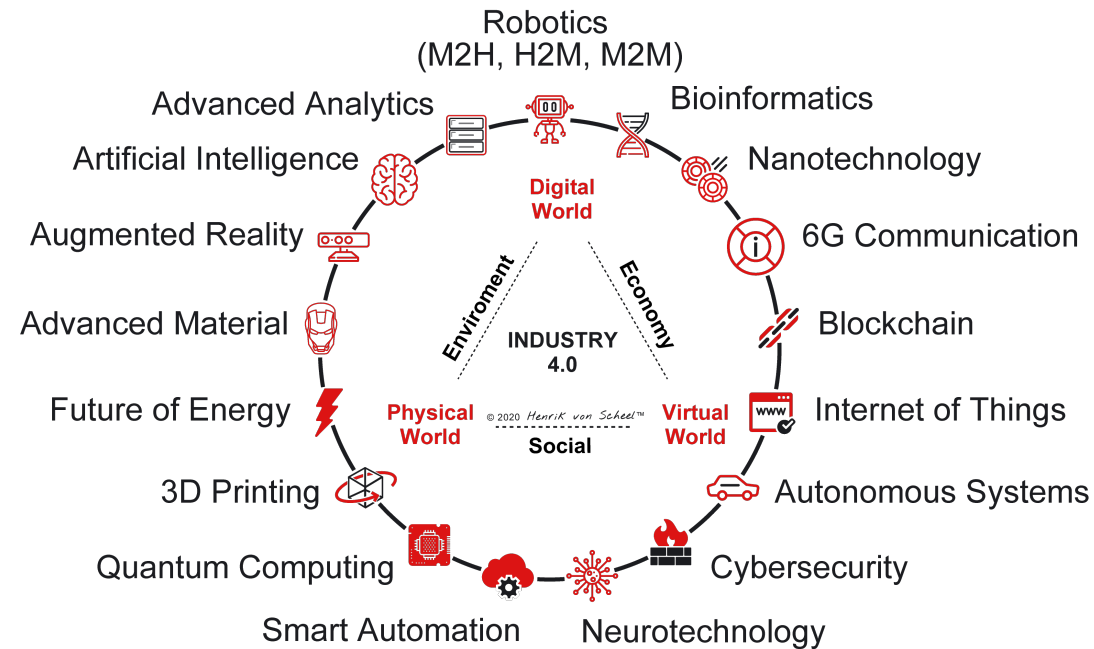
Henrik von Scheel
Originator of the Fourth Industrial Revolution



The 3 worlds colliding



The Technology Revolution arrives in three waves of disruption



1st wave 2009 - 2016

- Digitalization (IOT)
- Advanced Analytics
- Cloud Computing
- Augmented Reality
- Robotics
- 3D Printing

2nd wave 2016 - 2025

- Artificial Intelligence
- Autonomous Systems
- Blockchain
- Smart Automation
- 6G Communications
- Future of Energy

3rd wave 2025 ...

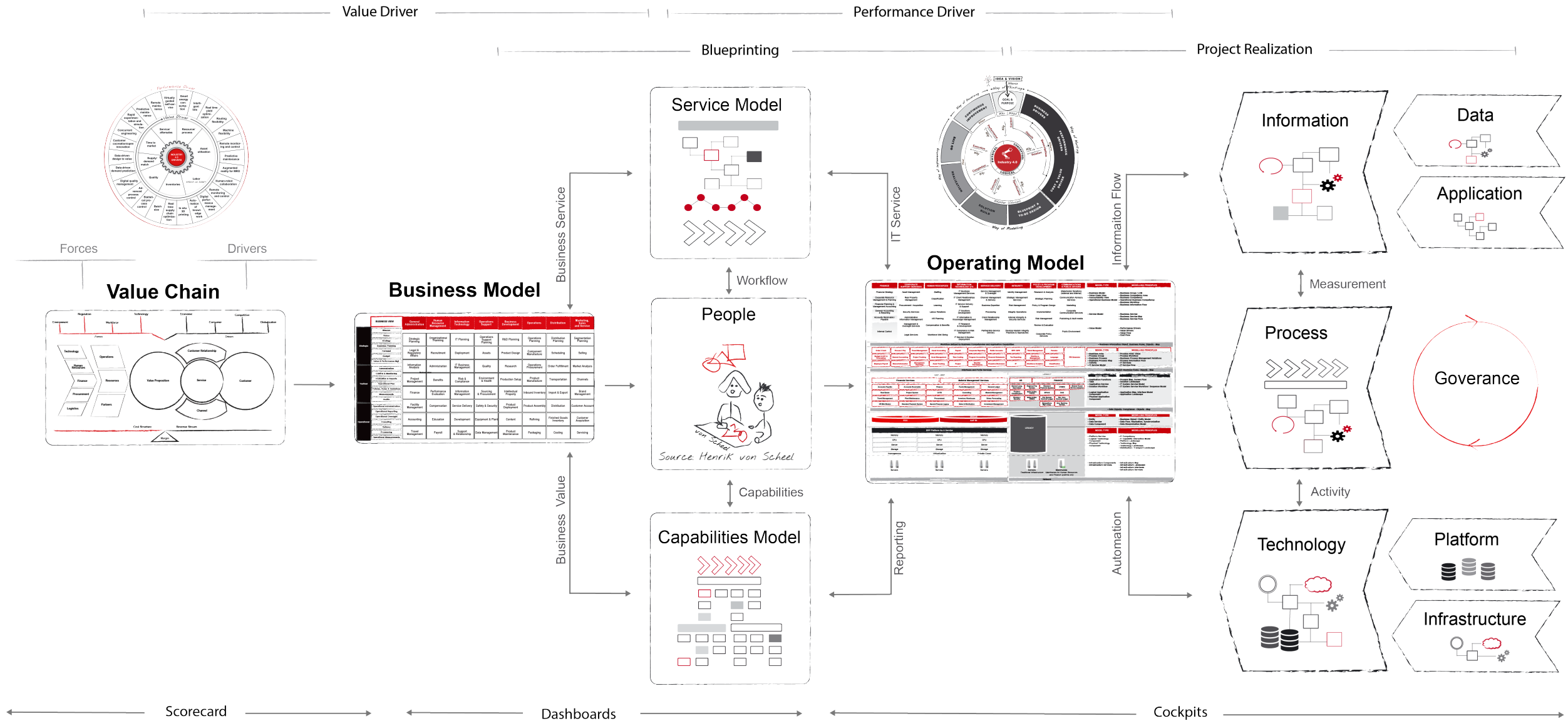
- Quantum Technology
- Cybersecurity
- Neurotechnology
- Nanotechnology
- Bioinformatics
- Advanced Material ...

Putting the *Industry 4.0* into Practice

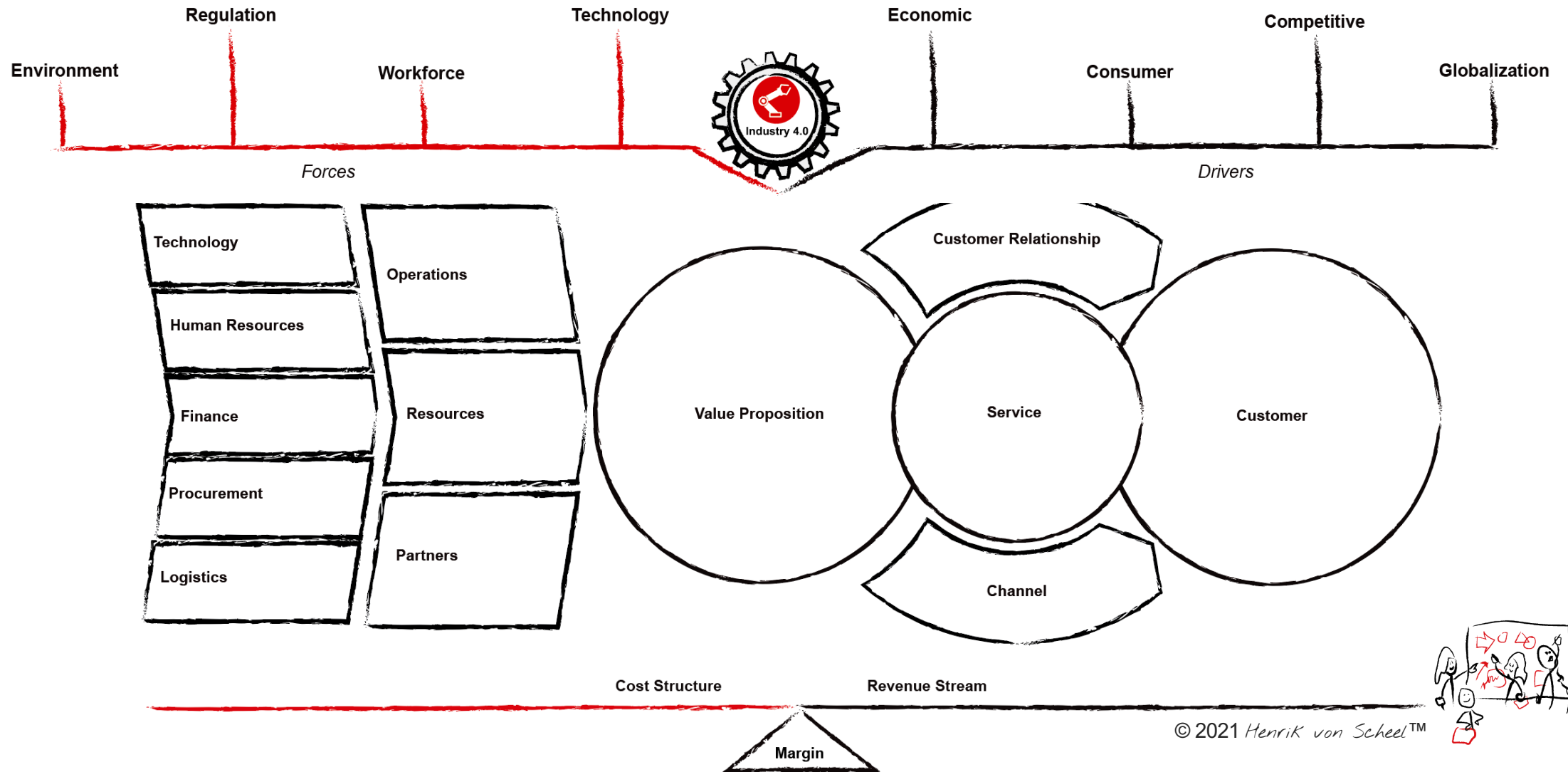


I've got your back

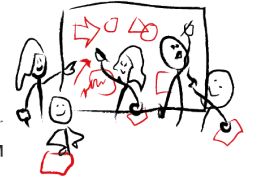
Disciplines required to link strategy with operations



Manage the present, while create your future



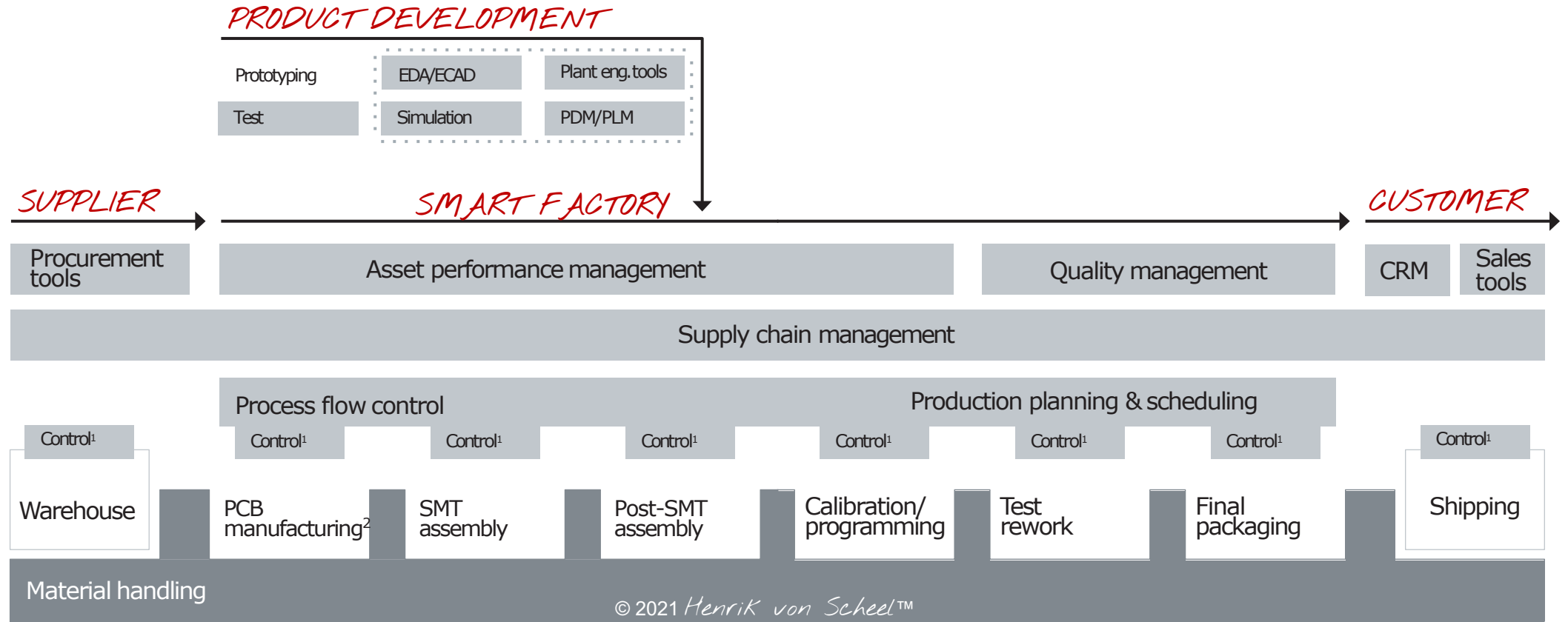
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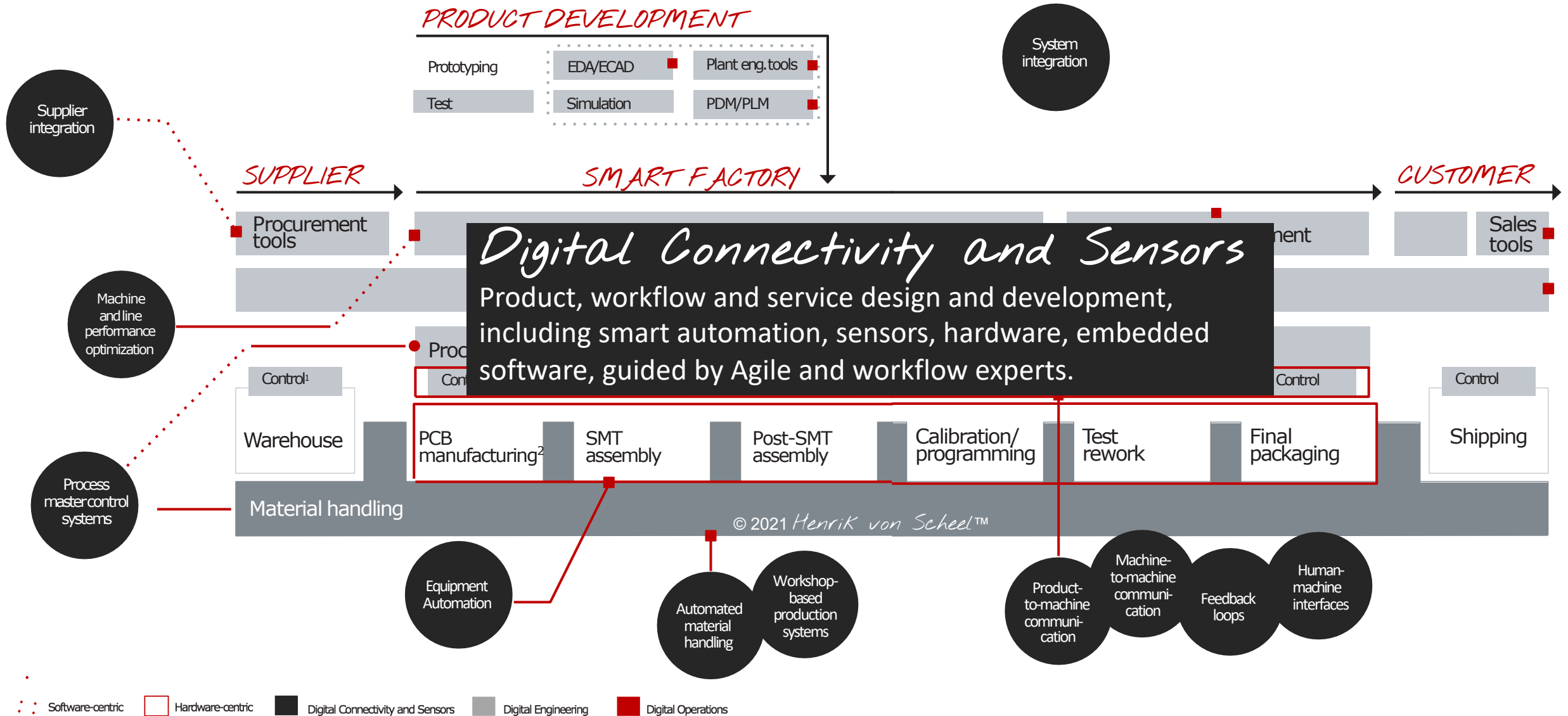
Legend Decision Board

Operating Model	Performance Model	Cost Model	Value Model	Service Model	Revenue Model
<ul style="list-style-type: none"> *I = Integration Opportunity ① = Maturity Level # = People Distribution ✓ = Governance, Policies & Guidelines ≡ = Standardization Opportunity 	<ul style="list-style-type: none"> *P = Performance Opportunity % = Measurements 🕒 = Control & Monitoring 📄 = Reporting Flow BPM = Effectiveness & Efficiency 	<ul style="list-style-type: none"> *C = Cost Opportunity △ = TCO Opportunity 📄 = Cost Flow \$ = Evaluation & Audits 📊 = Cockpits, Dashboards & Scorecards 	<ul style="list-style-type: none"> *V = Value Opportunity ➤ = Value Creation ROI = ROI Opportunity 🔍 = Value Identification 	<ul style="list-style-type: none"> 📄 = Service Flow ⊗ = Complex Service 📄 = Simple Service ⊙ = Unique Service 📄 = Main/Supporting Service 	<ul style="list-style-type: none"> *R = Revenue Opportunity 📄 = Core Differentiating Competency 📄 = Revenue Flow 📄 = Core Competitive Competency 📄 = Channel

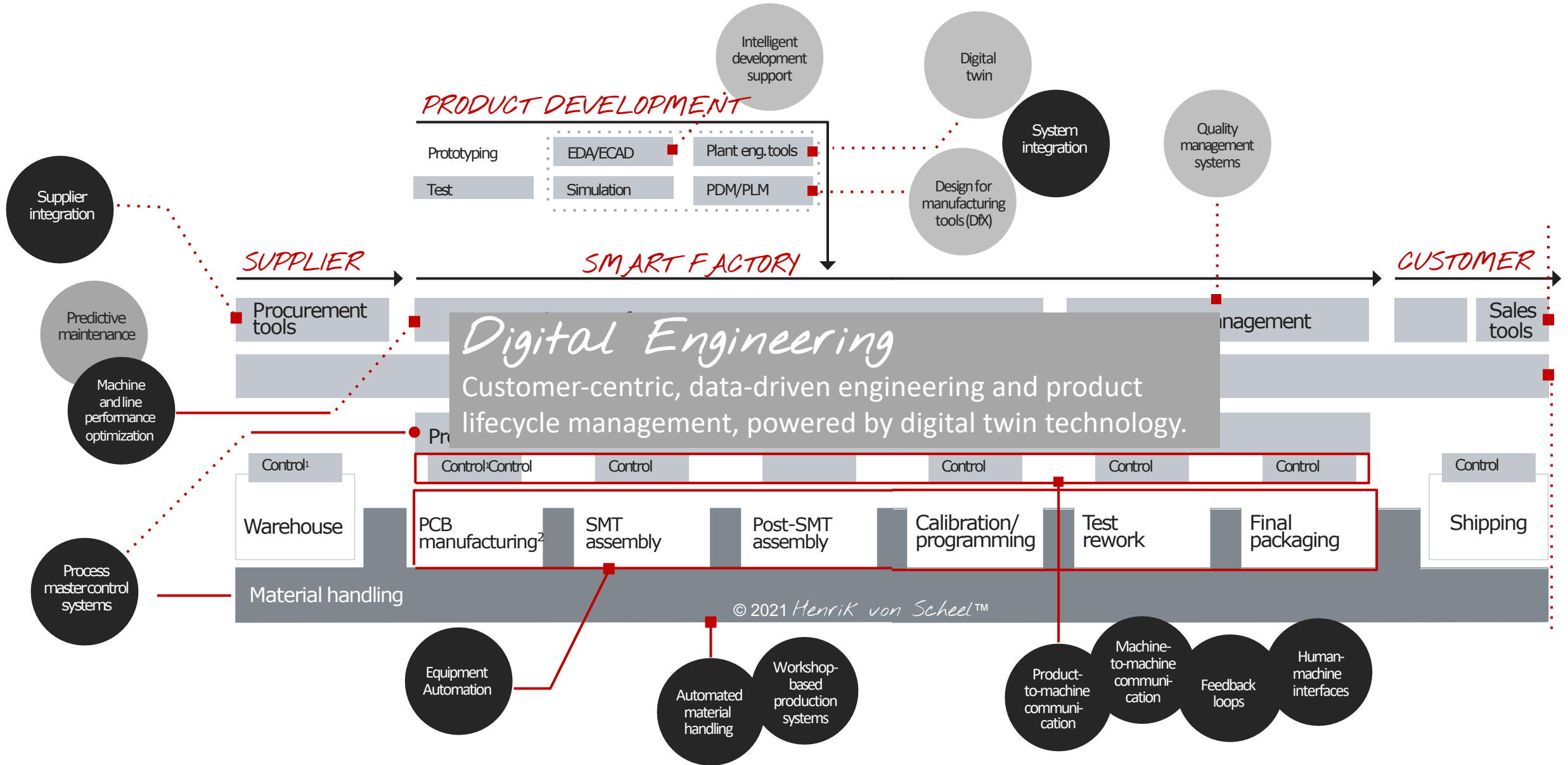
Discrete Manufacturing runs with less than 60% of productivity



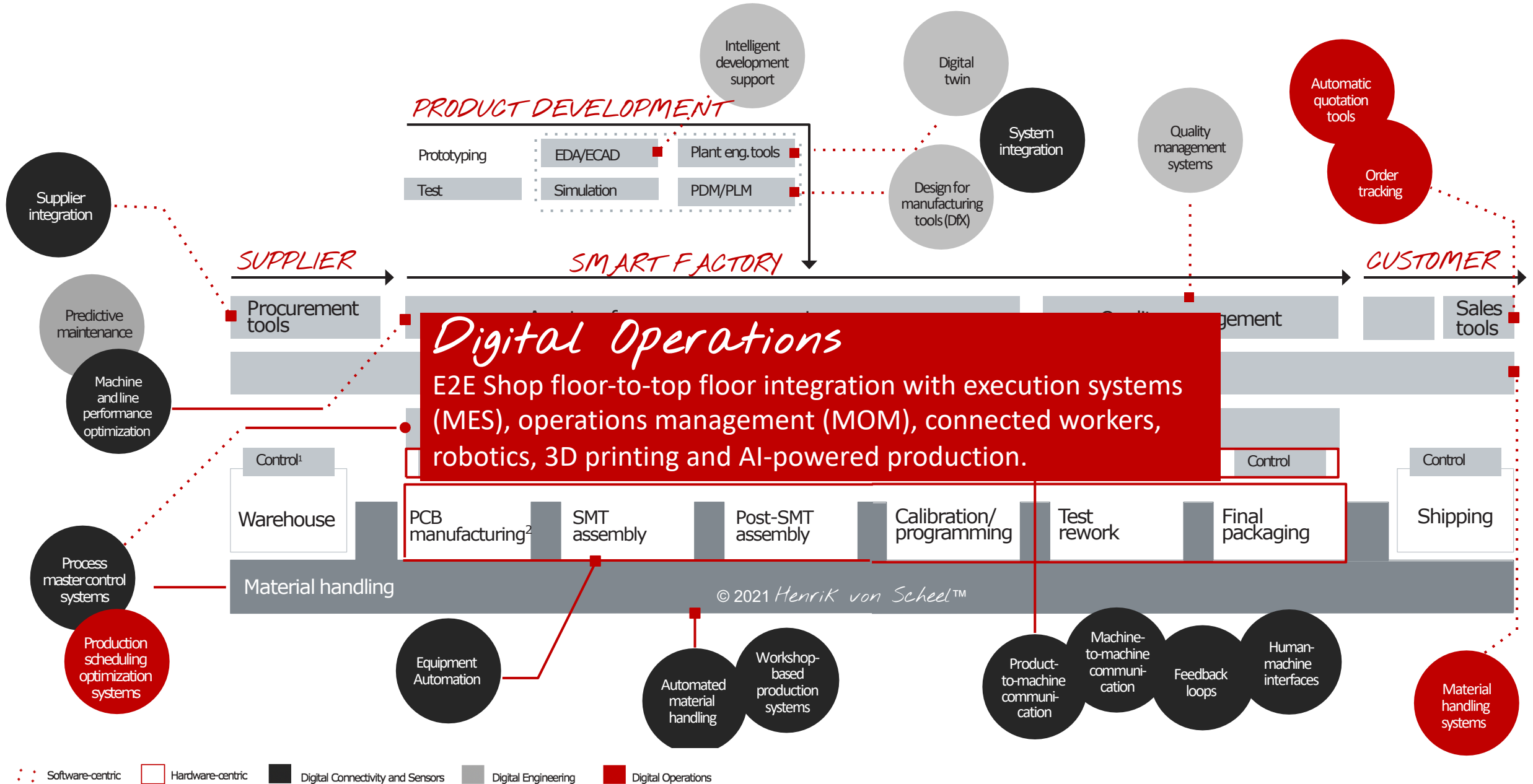
The nuts and bolts of Digital Connectivity and Sensors



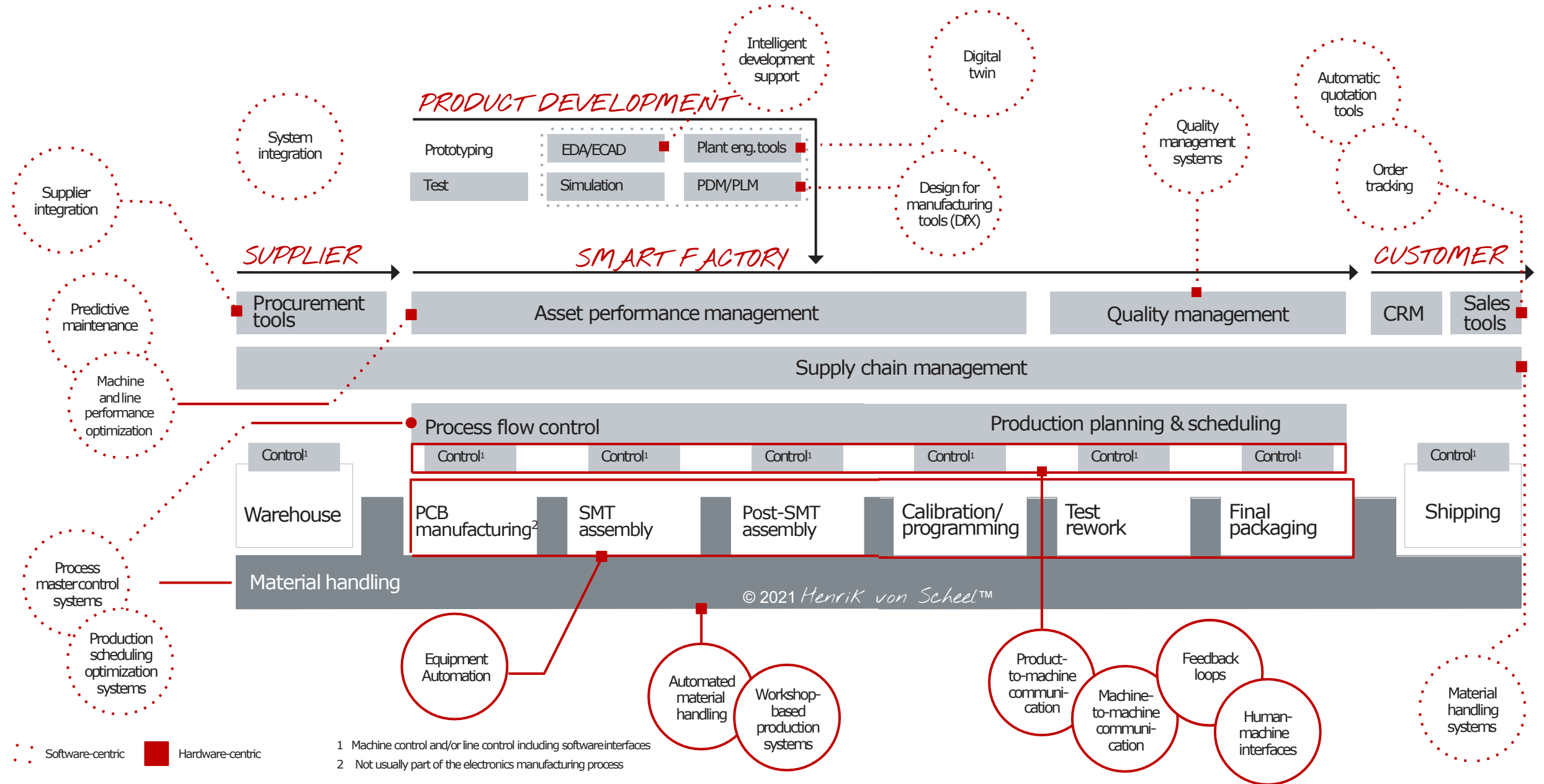
The nuts and bolts of Digital Engineering



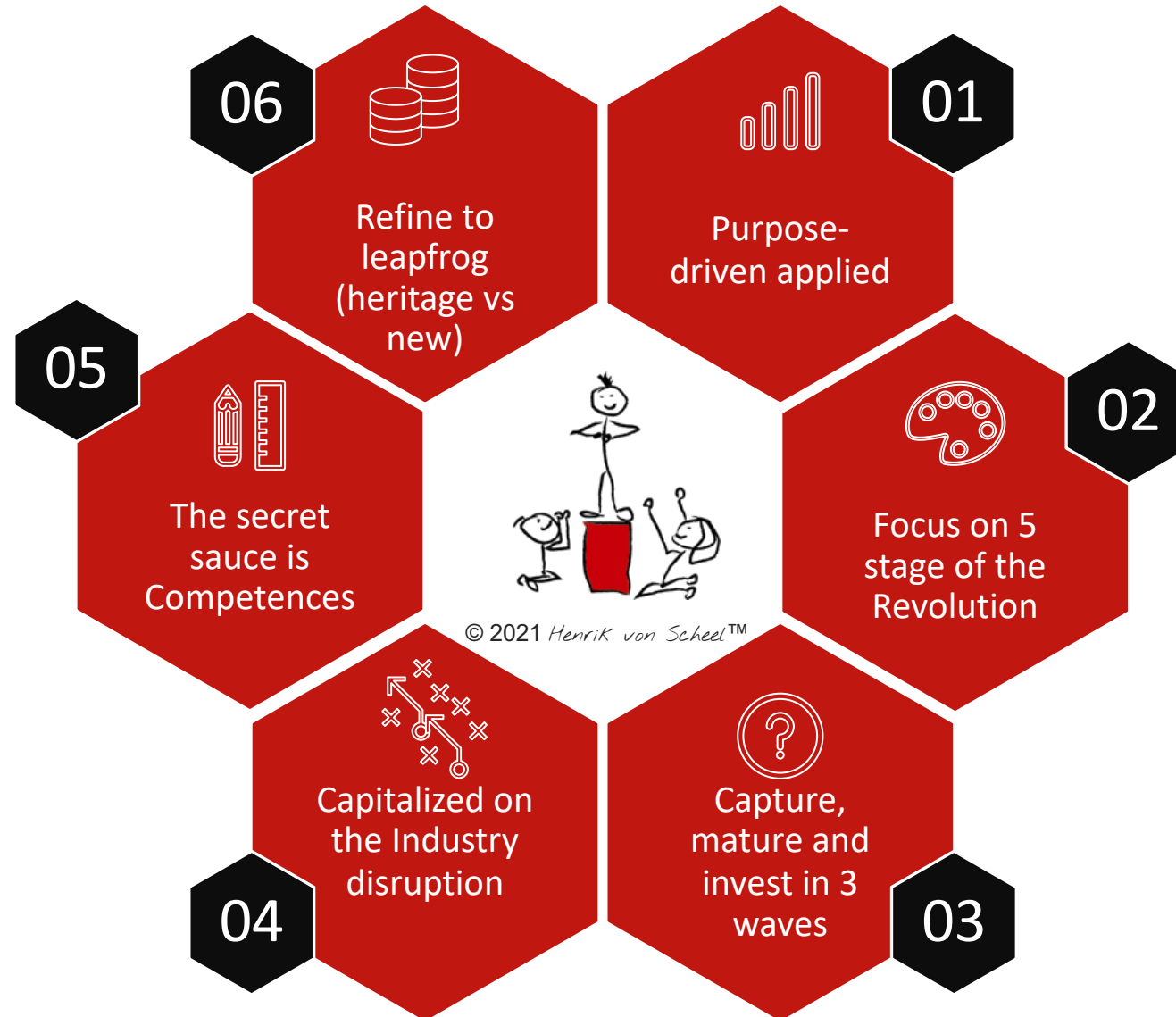
The nuts and bolts of Digital Operations



Business impact on Smart Factory

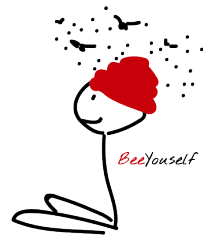


Critical ways to apply the Industry 4.0 in Trade and Investment



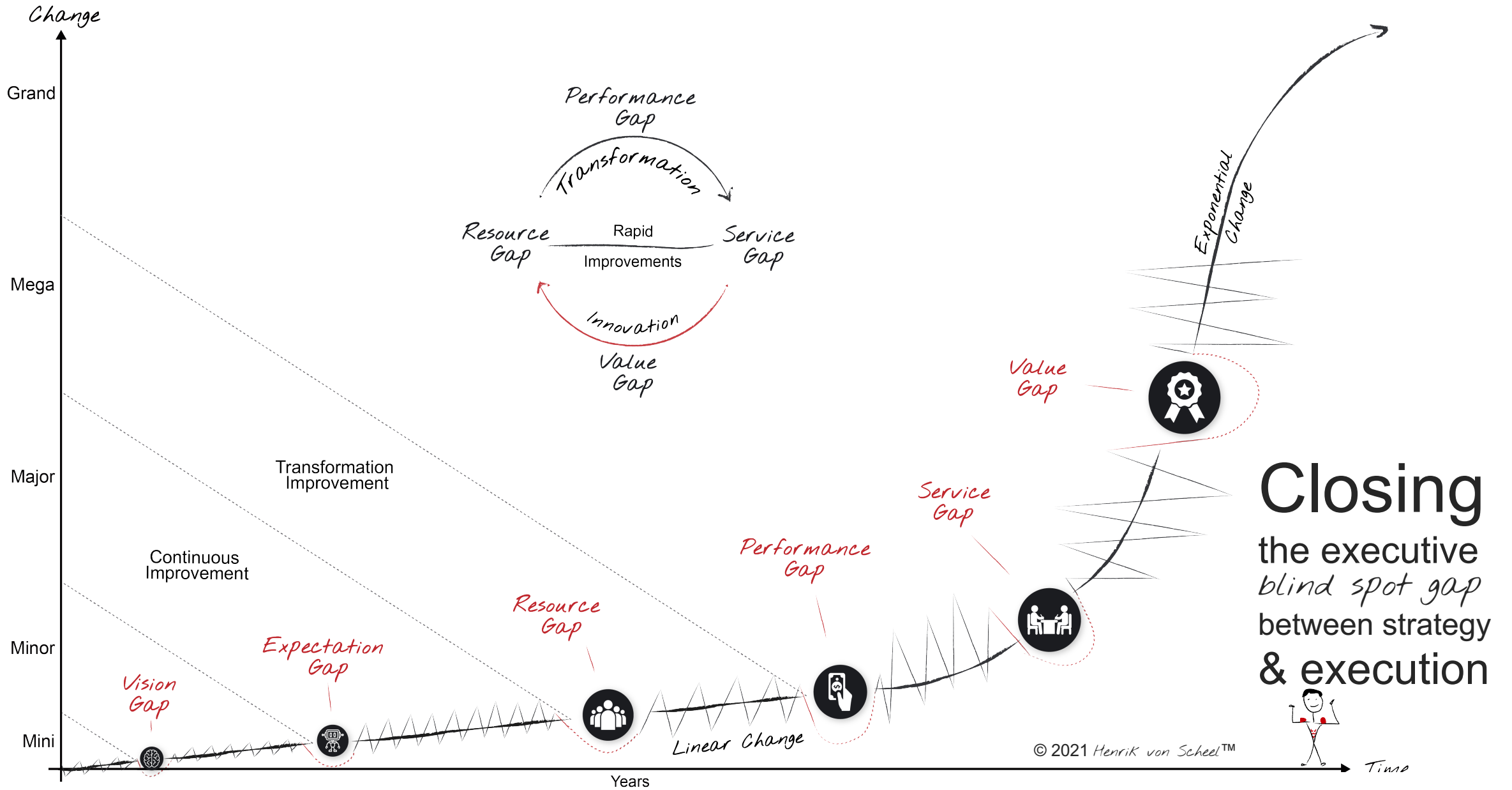
SPOILER ALERT

Not to spoil the ending for you,
but everything is going to be OK.

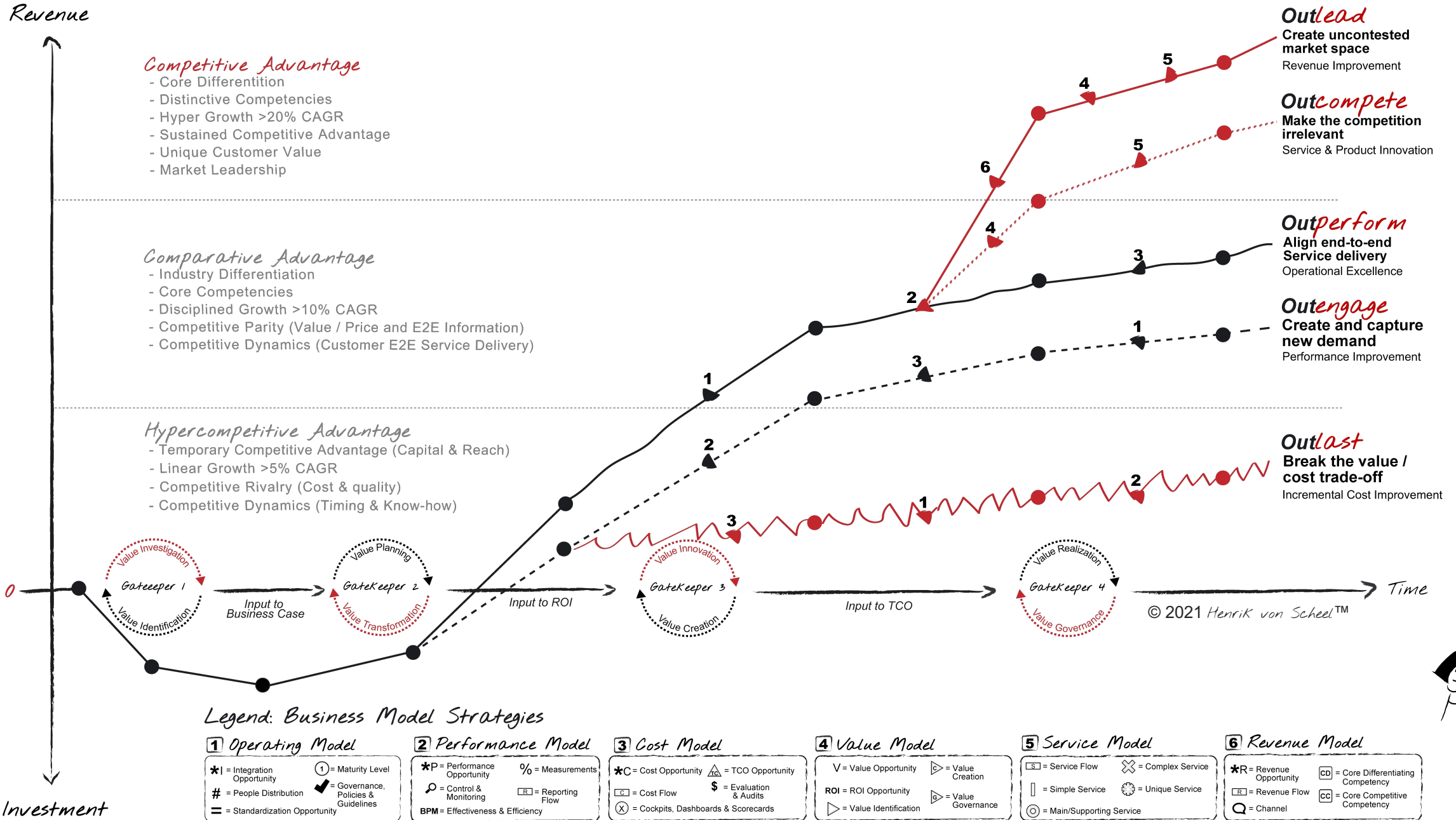


I am a unshakable optimists, who
believe in a bright future and our
ability to build it together.

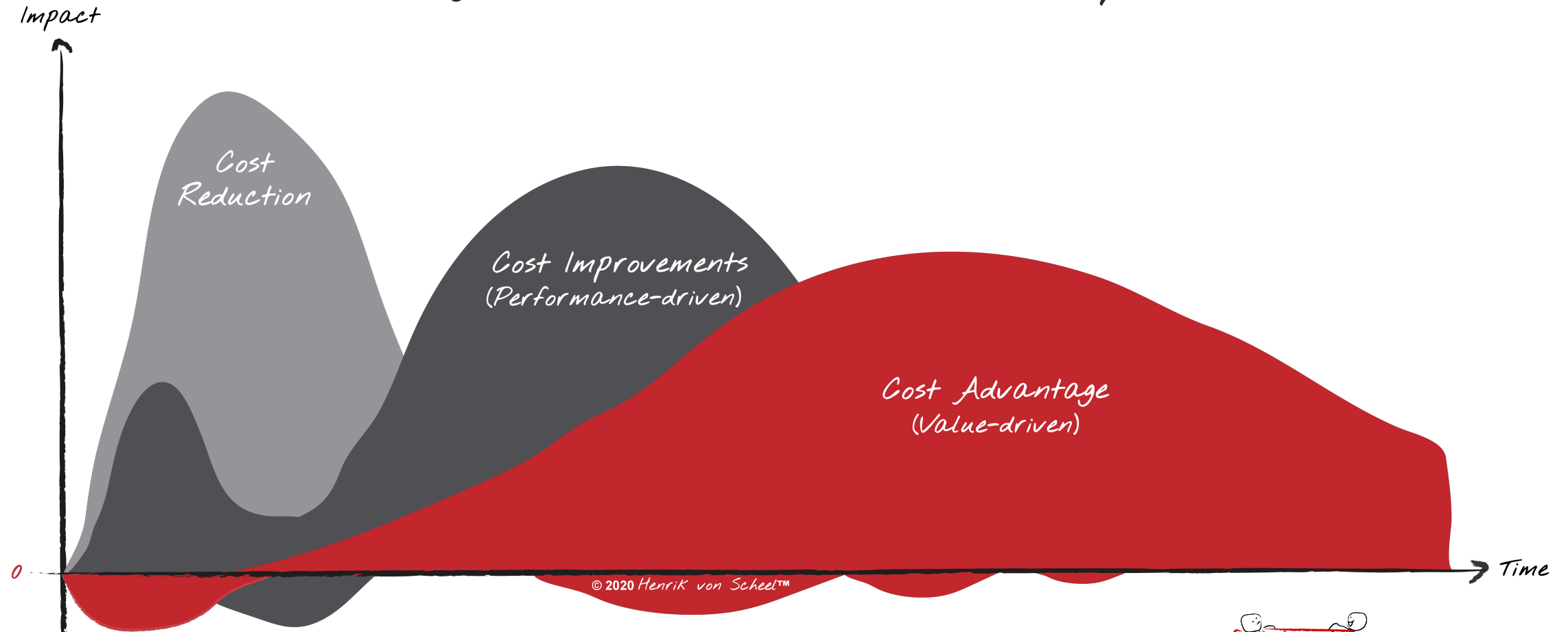
Leading through changing



Strategy, not technology drives Change and Competitive Advantages



Executive Guide to Strategic Cost Decisions for Recessionary Times



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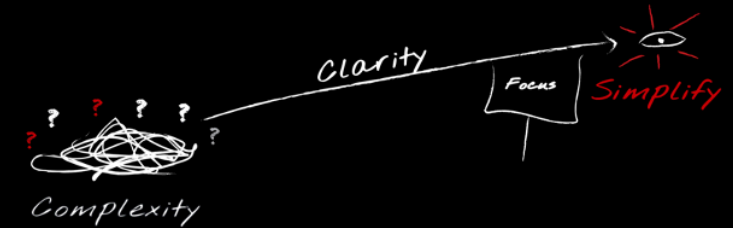
Executive Guide to Strategic Cost Decisions

<p>Cost Cutting ③</p> <p>Cost Leadership with timing, wit and low cost ③ — ① — ②</p> <p>Performance-driven Cost Optimization ② — ③ — ①</p> <p>Order-to-Cash Cost Excellence ① — ② — ③ — ④ — ⑤</p> <p>Value-driven Cost Advantage ① — ② — ③ — ④ — ⑤</p>	<p>Legend</p> <p>Colour identified Cost focus</p> <p>①</p> <p>Number refers to Business Model Decision Board</p>	<p>① Operating Model</p> <p>*I = Integration Opportunity ① = Maturity Level</p> <p># = People Distribution ✓ = Governance, Policies & Guidelines</p> <p>= = Standardization Opportunity</p>	<p>② Performance Model</p> <p>*P = Performance Opportunity % = Measurements</p> <p>🔍 = Control & Monitoring 📄 = Reporting Flow</p> <p>BPM = Effectiveness & Efficiency</p>	<p>③ Cost Model</p> <p>*C = Cost Opportunity ⚠ = TCO Opportunity</p> <p>📦 = Cost Flow \$ = Evaluation & Audits</p> <p>ⓧ = Cockpits, Dashboards & Scorecards</p>
		<p>④ Value Model</p> <p>V = Value Opportunity ▷ = Value Creation</p> <p>ROI = ROI Opportunity ◁ = Value Governance</p> <p>◁ = Value Identification</p>	<p>⑤ Service Model</p> <p>📄 = Service Flow ✕ = Complex Service</p> <p>📏 = Simple Service ⚙ = Unique Service</p> <p>🕒 = Main/Supporting Service</p>	<p>⑥ Revenue Model</p> <p>*R = Revenue Opportunity Ⓜ = Core Differentiating Competency</p> <p>📄 = Revenue Flow Ⓜ = Core Competitive Competency</p> <p>Q = Channel</p>



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