MOBILITY OF THE FUFURE

By Götz Wehberg

November 2020

Introduction
Götz G. Wehberg

Currently
- Partner at Infosys and Leader Supply Chain
- 20+ years experience in Consulting
- Founder of DSI Think Tank
- Acknowledged expert in digital transformation >>

Previously
- EVP at Capgemini – Global leader
- Senior Partner at Deloitte – SCM Leader
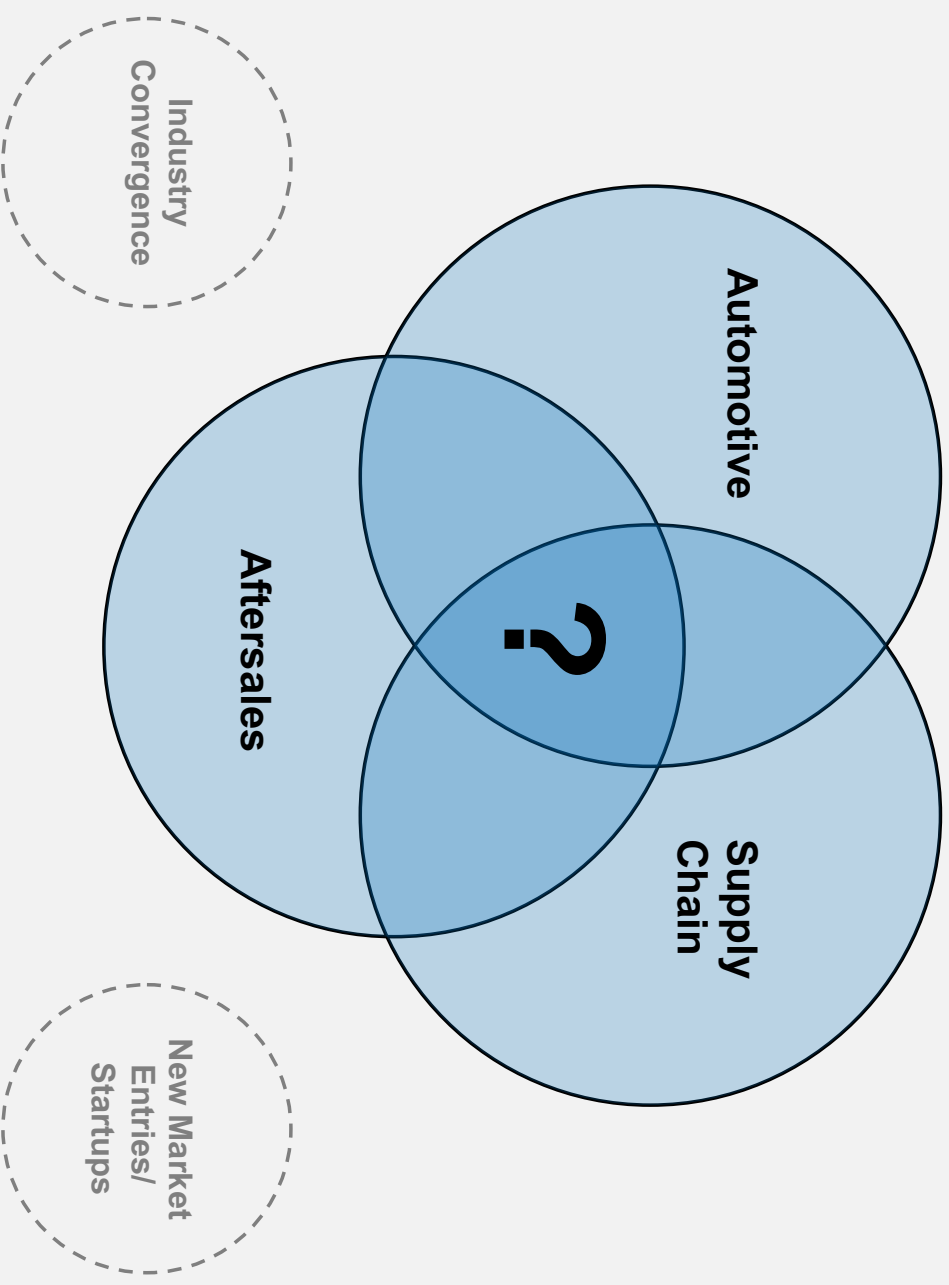- Principal at Kearney – Supply Chain expert

Personal
- PhD in Supply Chain Management
- Married 20 years with two sons
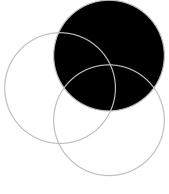- Lives in Bonn / Germany

>> For more info

Götz G. Wehberg

Virtuelle Netzwerke Digitale Geschäftsmodelle
Big Data
Supply Chain Organisation
Selbstorganisation
CPS

Logistik
Komplexität managen
in Theorie und Praxis

Springer

GÖTZ G. WEHBERG

DIGITAL SUPPLY CHAINS
Key Facilitator to Industry 4.0 and New Business
Models, Leveraging S/4 HANA and Beyond

Third Edition

For OEM`s Spare Part Logistics, 3+ Angles Make a Difference

Angles of Business Model Evolution

Industry Convergence

Automotive

Aftersales

?

Supply Chain

New Market Entries/ Startups

Digital Natives Like "Dawn Digital" Behave Differently

Basic Consumer Needs and Dawn Digital's Behaviour

Eat: She's always shopping, however, she's never in line

Care: She's never been to a doctor, but she visits her doctor every week
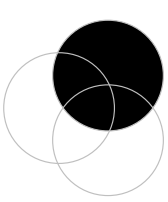
Dress: Her T-shirt is connected to the web

Move: She doesn't know how to drive, however, she's driving all the time

Live: She's never ever been "lost," and her tattoo unlocks her door
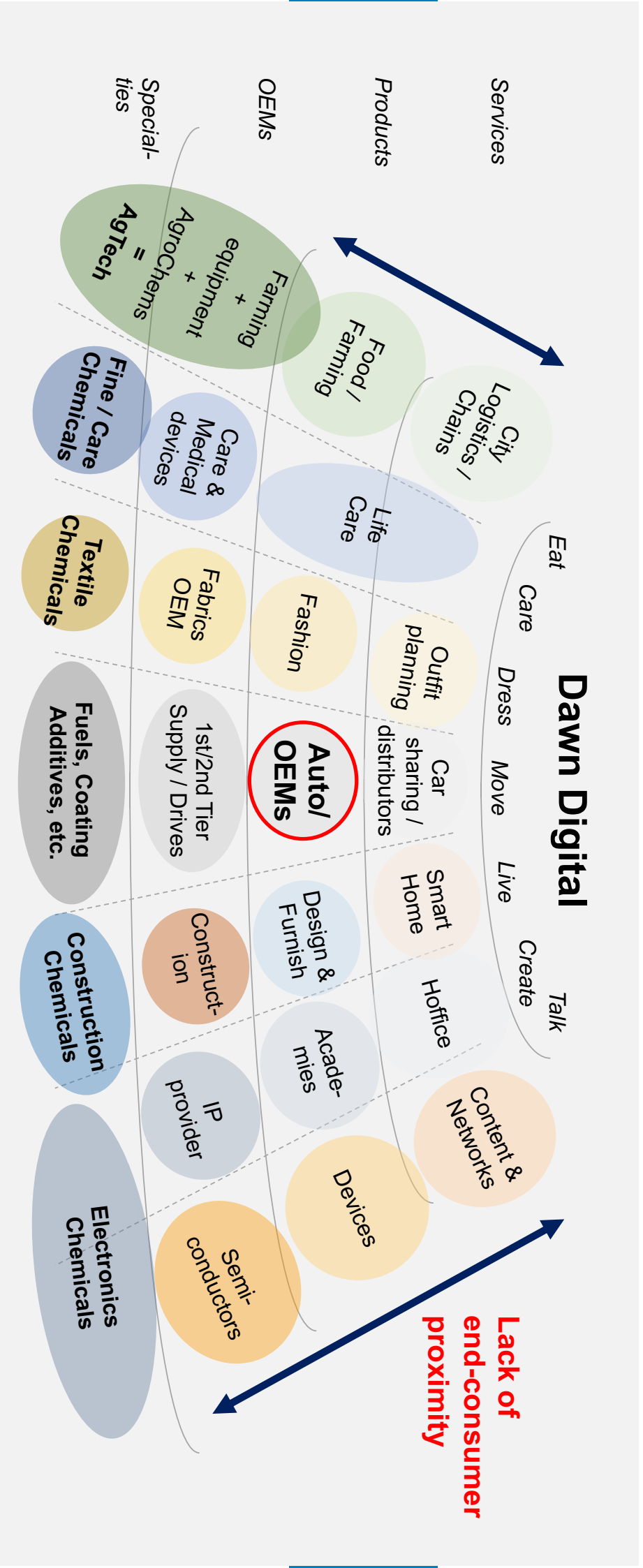
Create: Her superior is a robot

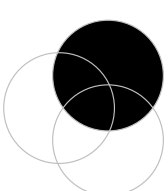**Talk:** She never logs on, but she is indeed always online

Basis: Clay, Mashall, Glynn 2017; Wehberg 2018

Current automotive players are being challenged...
End-consumers' Needs and Market Landscape

Dawn Digital

Lack of end-consumer proximity

Services

Products

OEMs

Special-ties

Farming + equipment + AgroChems = **AgTech**

Food / Farming

City Logistics / Chains

Fine / Care Chemicals

Care & Medical devices

Life Care

Textile Chemicals

Fabrics OEM

Fashion

Outfit planning

Fuels, Coating Additives, etc.

1st/2nd Tier Supply / Drives

Auto/ OEMs

Car sharing / distributors

Smart Home

Construction Chemicals

Construct-ion

Design & Furnish

Hoffice

IP provider

Acade-mies

Electronics Chemicals

Semi-conductors

Devices

Content & Networks

Eat
Care
Dress
Move
Live
Create
Talk

Dawn Digital

Eat

Care

Dress

Move

Live

Create

Talk

Services

Products

OEMs

Special-ties

LifeCare
+
AgTech
=
CagTech

Textile Chemicals

Fabrics OEM

Inte-grated Fashion Pro-ducers

Mobility services
(e.g. CASE – connected, autonomous, shared, servitized, electric …)

Smart Materials

Smart Home

Hoffice

Acade-mies

IP provider

Internet Comms Systems

Semi-conductors

Electronics Chemicals

…which will integrate other end-consumer spheres, prospectively
Future Business Models

Services

Products

OEMs

Special-
ties

Eat

Care

Dress

Move

Live

Create

Talk

Dawn Digital

Integrated mobility services

(food to go, health aaS, mobile entertainment, mobile office …)

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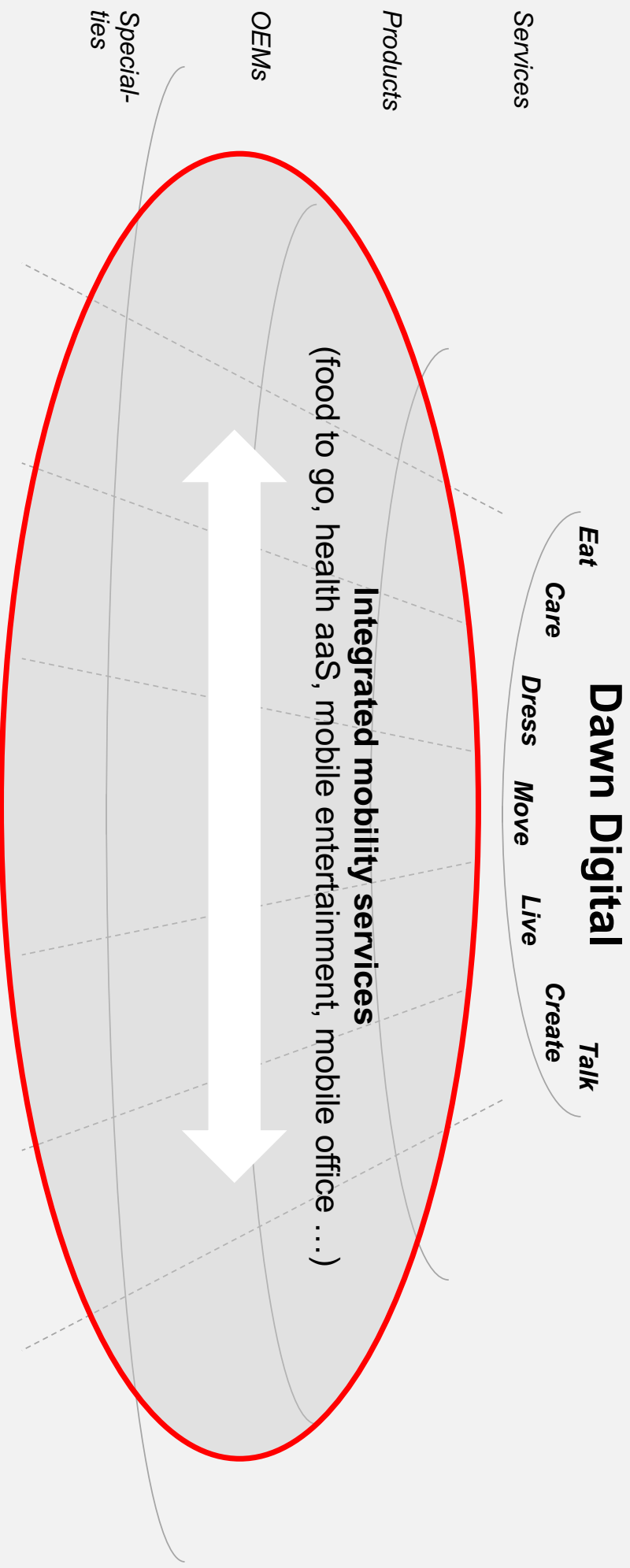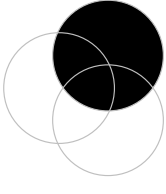
Supply chains must evolve towards digital and resilient
Stages of Supply Chain Maturity
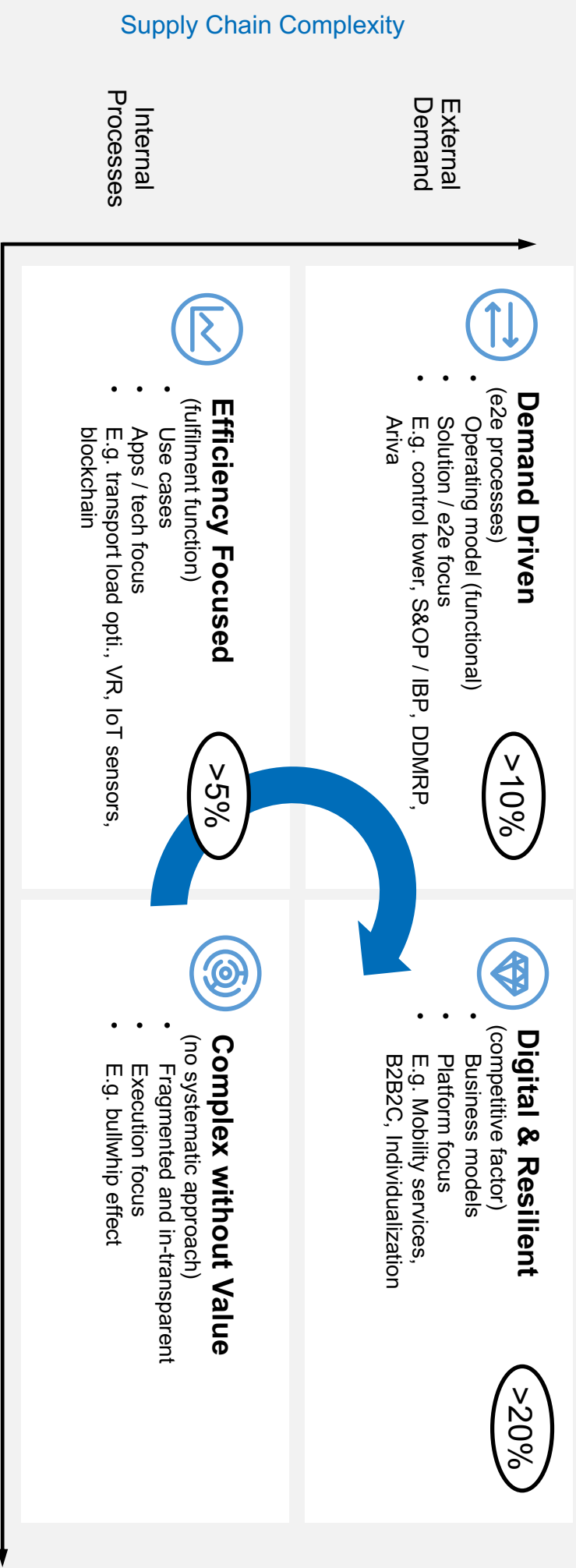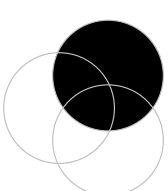
Supply Chain Complexity

External Demand

Internal Processes

Demand Driven
(e2e processes)
- Operating model (functional)
- Solution / e2e focus
- E.g. control tower, S&OP / IBP, DDMRP, Ariva

>10%

Digital & Resilient
(competitive factor)
- Business models
- Platform focus
- E.g. Mobility services, B2B2C, Individualization

>20%

Efficiency Focused
(fulfilment function)
- Use cases
- Apps / tech focus
- E.g. transport load opti., VR, IoT sensors, blockchain

>5%

Complex without Value
(no systematic approach)
- Fragmented and in-transparent
- Execution focus
- E.g. bullwhip effect

Standardization
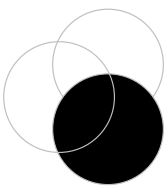
Supply Chain Focus

Differentiation

% Ebitda upside
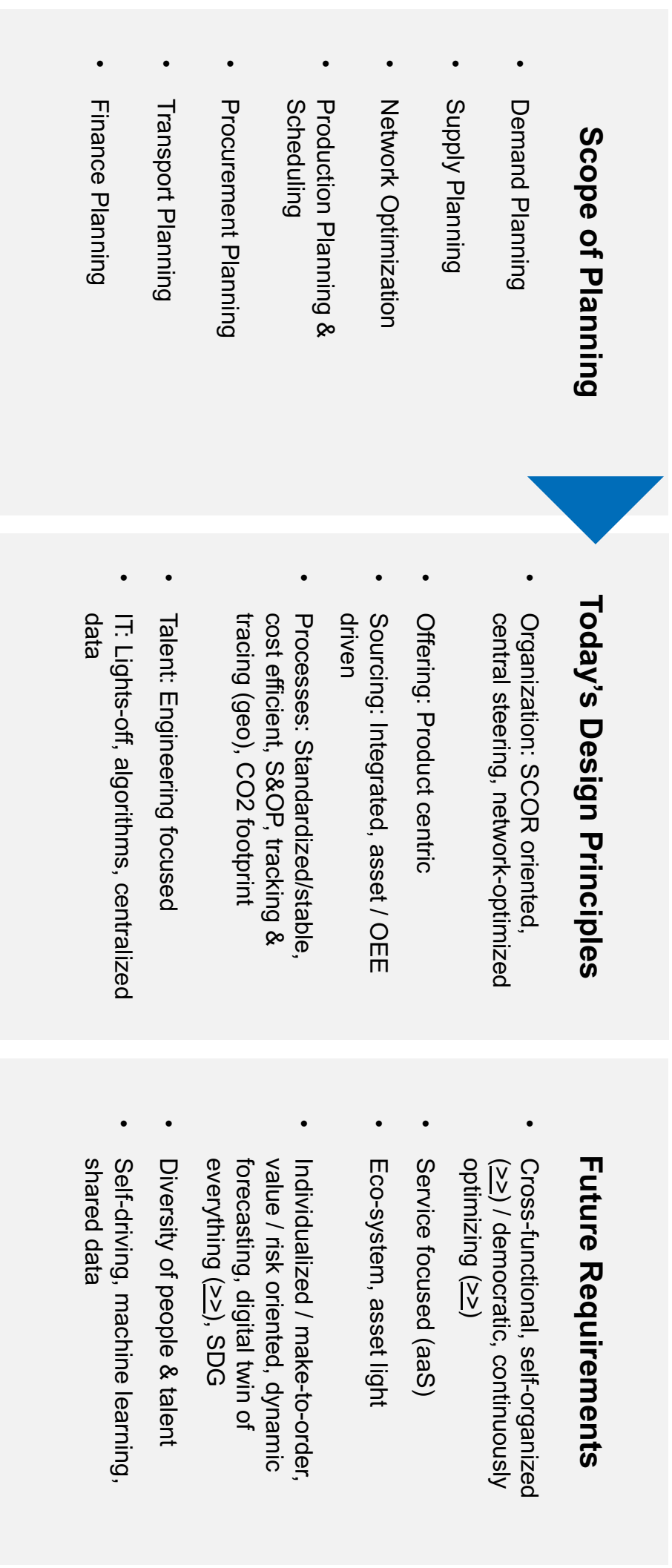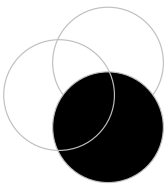
Evolution path

OEM's SC operating model must anticipate the future
Example: Supply Chain Planning of the Future

Scope of Planning

- Demand Planning
- Supply Planning
- Network Optimization
- Production Planning & Scheduling
- Procurement Planning
- Transport Planning
- Finance Planning

Today's Design Principles

- Organization: SCOR oriented, central steering, network-optimized
- Offering: Product centric
- Sourcing: Integrated, asset / OEE driven
- Processes: Standardized/stable, cost efficient, S&OP, tracking & tracing (geo), CO_2 footprint
- Talent: Engineering focused
- IT: Lights-off, algorithms, centralized data

Future Requirements

- Cross-functional, self-organized (>>) / democratic, continuously optimizing (>>)
- Service focused (aaS)
- Eco-system, asset light
- Individualized / make-to-order, value / risk oriented, dynamic forecasting, digital twin of everything (>>), SDG
- Diversity of people & talent
- Self-driving, machine learning, shared data

Self-organization asks for new design principles

Self-organization Key Principles
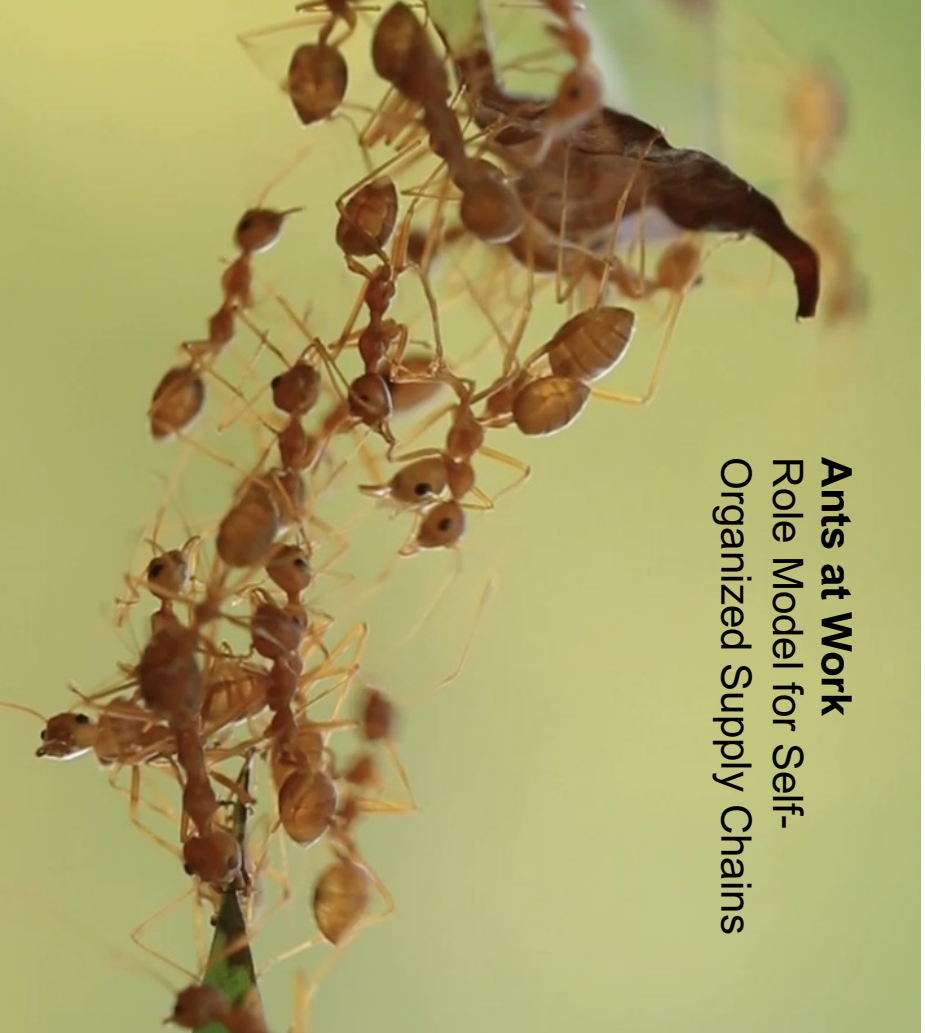
Ants at Work
Role Model for Self-Organized Supply Chains

...of nature

Recursion

Autonomy

Redundancy

Self-reference

...of supply chains

- Consistency of Steering
- Modular Across Hierarchy
- Standardization Across Sites
- End-to-end Responsibility
- >95% Online
- Enforced Alignment
- No Management Intervention
- Real-time Transparency
- Sharing
- One Data Lake
- Dynamic Forecasting
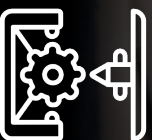- Continuous Improvement
- Machine learning

SERVICE-ORIENTED MODELS

Spare parts become smarter and 3-D printed along with

Smart & Green Spare Parts

- Connected spare parts based on IoT technology
- Remote analyses of asset history support predictive maintenance

3D

- Spare part production through 3D printing at scale
- Local production sites decrease distribution cost and reduce cycle times

Service-oriented Model

- Selling uptime or other services instead of parts
- Pricing upsides for focusing on customer value and results-oriented service levels

Any aftersales platform needs to be future-read and meet on-top requirements
On-top Requirements for Aftersales

Automotive

Aftersales

Supply Chain

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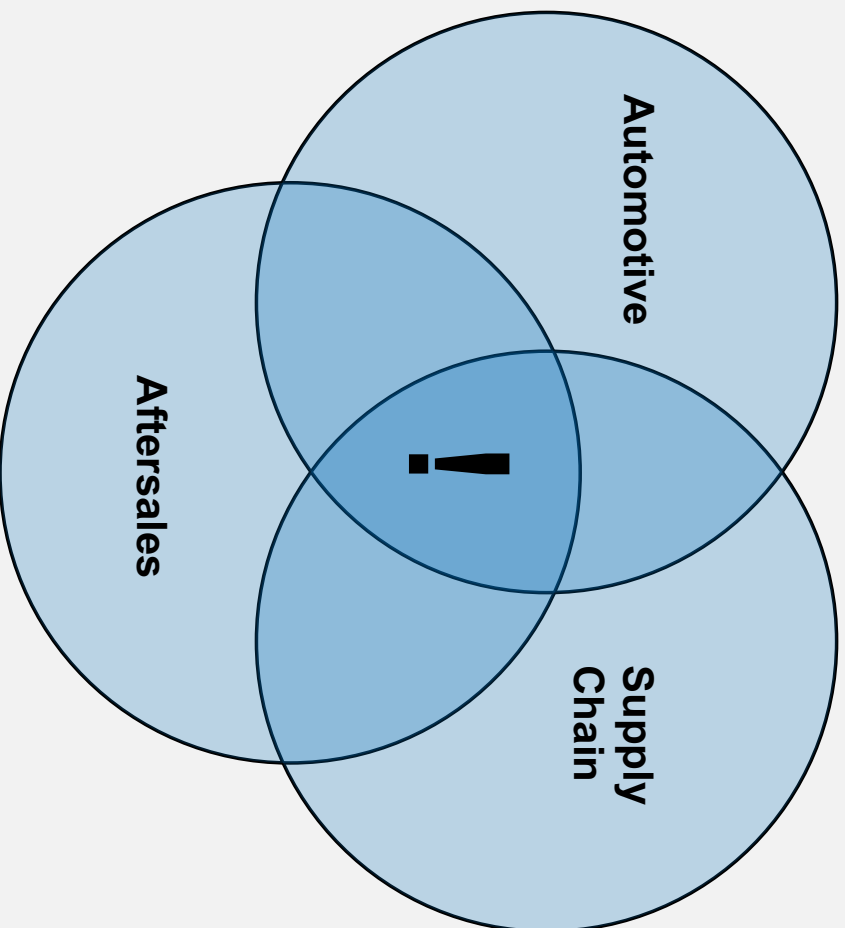
- **B2B2C and Democracy** - ready for the long-tail
- **Double-sided Platform** - leveraging services
- **Multi-channel** - eCommerce type of
- **Eco-partnered** - e.g. last mile via city logistics partners
- **Make-to-order as Mainstream** - individualized offers
- **End-to-end visibility** - beyond geography
- **Predictive forecasting** - of both demand and disruptions
- **Continious optimization** - of network and beyond
- **Self-organization** - as future design principle
- **Second-degree Automation**
- **Green** - like net-zero
- **Servitized** - from selling parts to selling uptime
- **Cloud-based and Micro Services**
- **3D-enabled**
- **Connected with Vehicles and Parts** - remote diagnostics

Thank You