

Procurement of the future in the context of digitalization and sustainability

Carsten Vollrath, IPG Partners Group

19th Procurement Conference
“Smart procurement for a sustainable future”

Zagreb

October 15th, 2024

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INNOVATE · PERFORM · GROW

Future procurement is
efficient, effective,
and *innovative*
to the same
extent

hund[®]
HRVATSKA UDRUGA NABAVNE DJELATNOSTI
CROATIAN ASSOCIATION OF PURCHASING

INNOVATIVELEADERS.WORLD

Risks | We are in the age of "stacking crises" - procurement as a pure cost-cutter is an obsolete model

Age of the Stacking crises

More, more often, more complex!

- › Climate change and regulatory environment
- › Heatwaves / crop failures
- › Pandemics / epidemics
- › Wars over limited resources
- › Habitat loss
- › Waves of refugees
- › Species extinction / forest fires
- › Discrimination
- › Volatile markets / rising prices
- › ...



Procurement as an agile...

... Gatekeeper!



... multiplier!



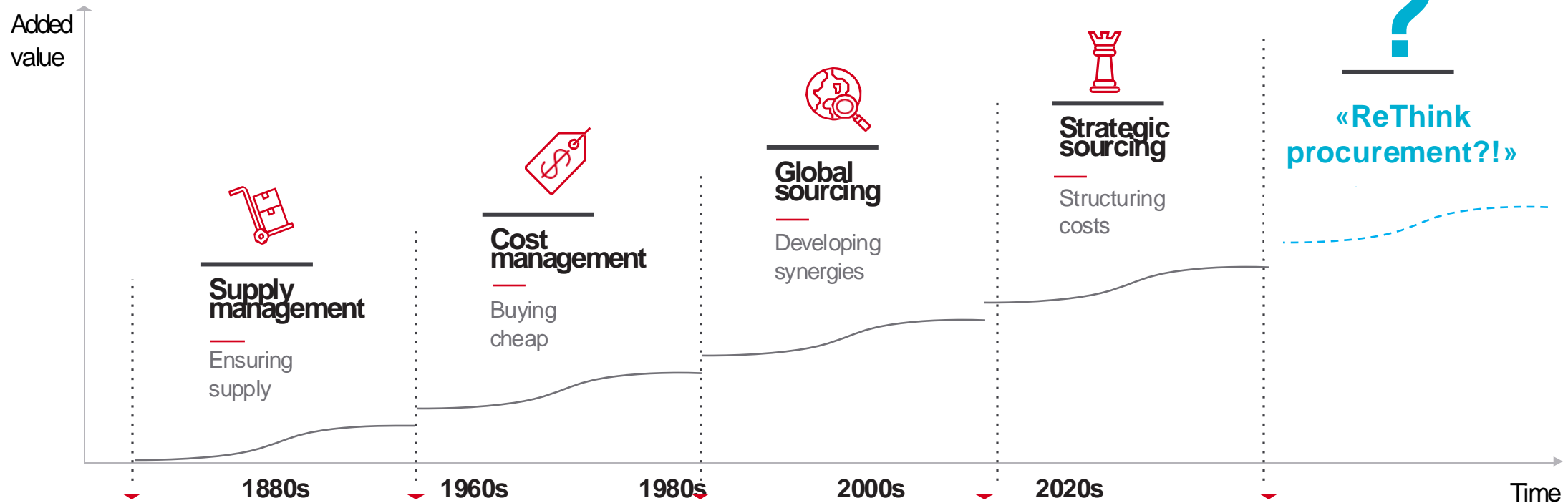
... Game-changer!



Procurement is one of the few functions that serves a **large number of interest groups with very different needs**

Paradigm shift in procurement | Digitalization as an opportunity to take on a new role and positioning away from a pure cost focus

Value contributions of procurement over time...

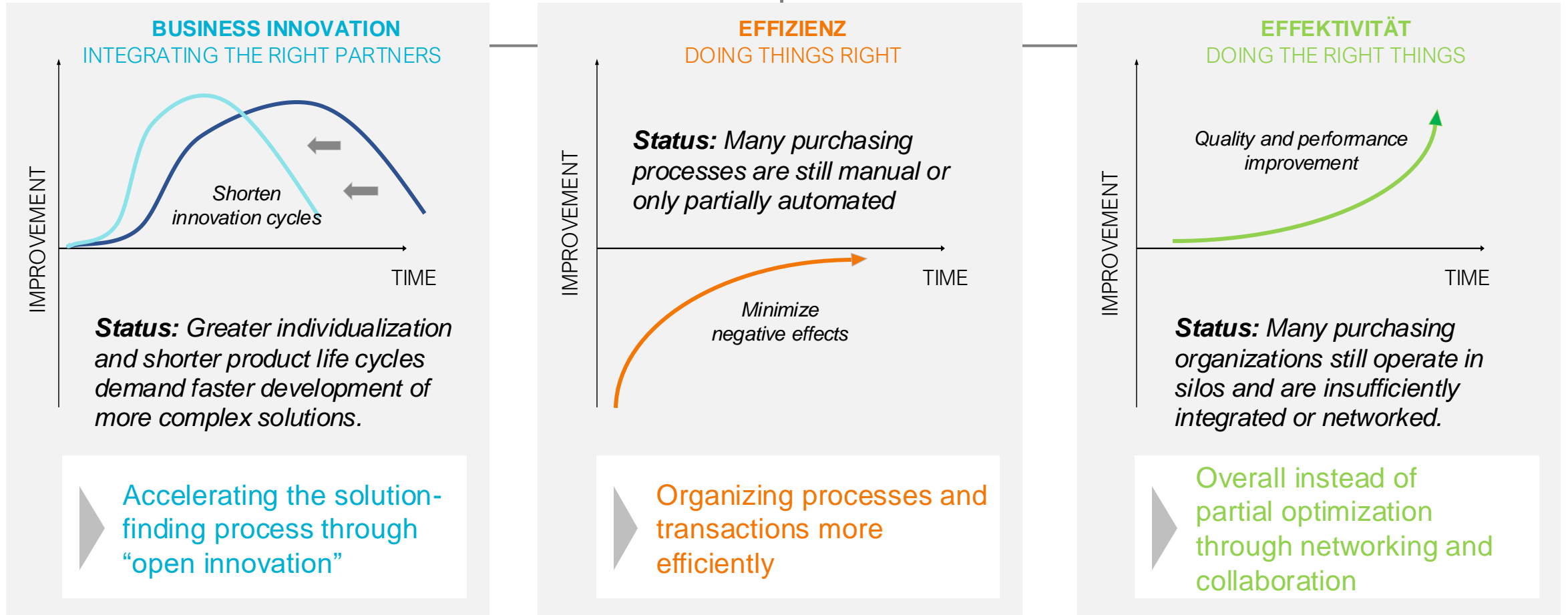


The current procurement business model has reached its limits...

▶ The traditional levers for cutting costs have reached the point where they no longer pay off

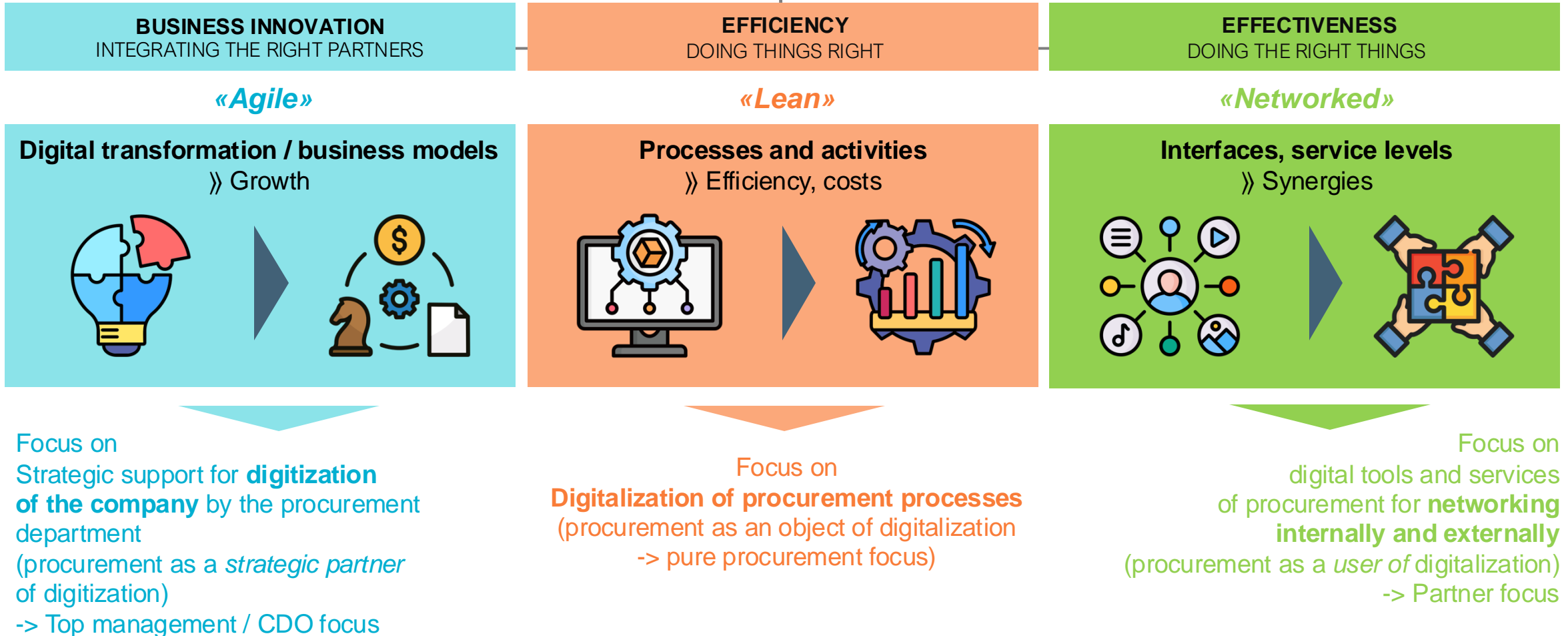
▶ The potential of digital technologies in procurement and SCM is not (yet) fully exploited

PROCUREMENT OF THE FUTURE



Vision of procurement | Future procurement is efficient, effective, and innovative to the same extent

PROCUREMENT OF THE FUTURE



Strong AI | Estimates of when "strong" artificial intelligence will arrive have fallen from 80 years to less than 8 years in the last 4 years

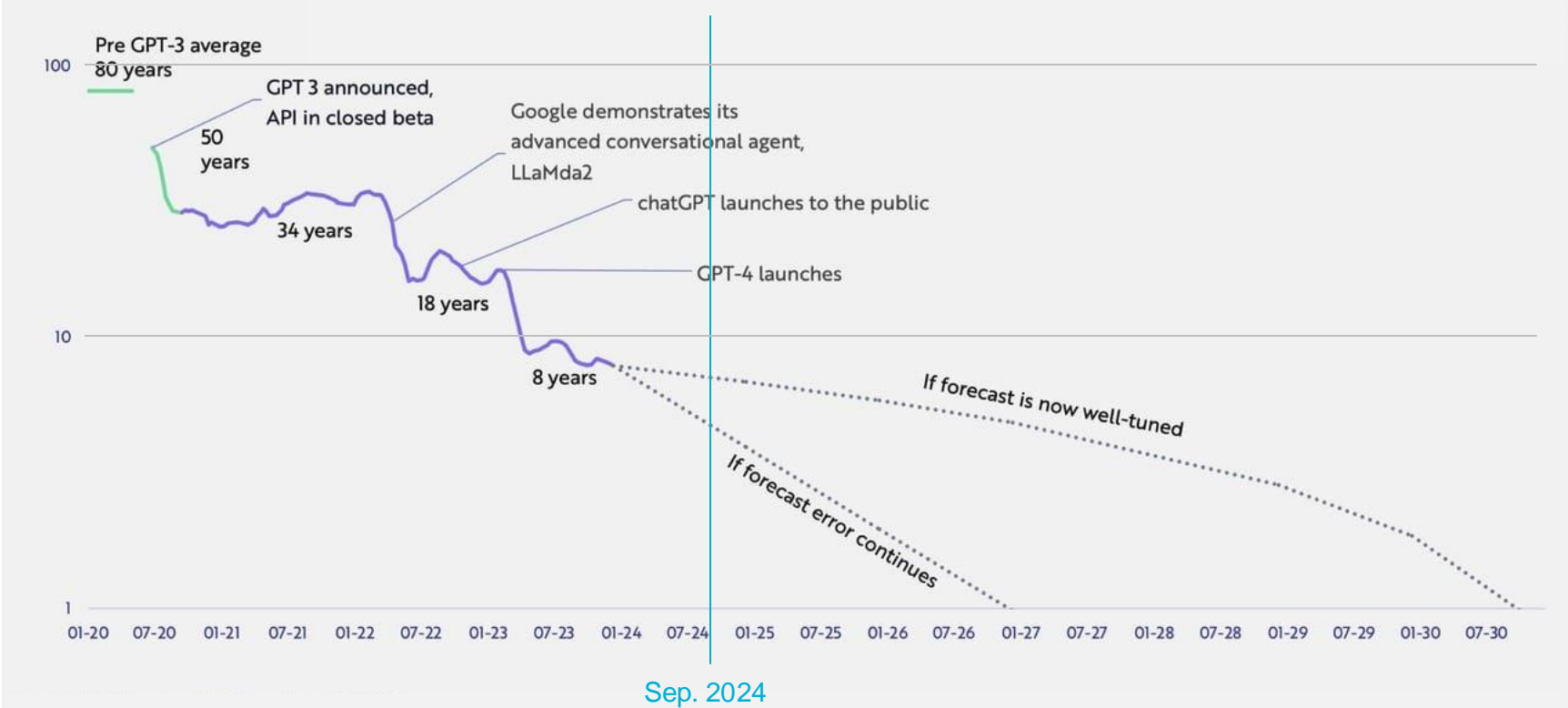
Strong AI:

The goal of **strong artificial intelligence** (also known as **superintelligence**, or *strong AI* or *general AI*) is to achieve or surpass **the same intellectual skills as humans**

Strong artificial intelligence no longer just acts reactively, but also on its own initiative, intelligently and flexibly

As of today, it has not yet been possible to develop strong artificial intelligence

Estimated years until STRONG ARTIFICIAL INTELLIGENCE is available (logarithmic scale)



Source: Metaculus, ARH Invest, 2024
Lines are derived estimates for the period of general strong AI based on forecasts

BUSINESS INNOVATION
INTEGRATING THE RIGHT PARTNERS

«Agile»

Procurement as a service-oriented business model



- › Central hub for **insights & forecasts**
- › sees itself as an **internal service provider** that offers its customers **efficient, digital new services**
- › **Forecasting**
- › **Process tracking**
- › **Training courses**
- › **Plug & Play** from acquisitions
- › **Services to third parties**

EFFICIENCY
DOING THINGS RIGHT

«Lean»

Category efficiency leader



- › **Cross-functional spend management** on one digital platform
- › **Cooperate** with the responsible departments
- › Consideration of procurement aspects in **early development phases**
- › Develop **flexible models** for **cost-conscious design** in real time
- › deliver **business cases** for **ad-hoc minimization of component and material complexity**

EFFECTIVENESS
DOING THE RIGHT THINGS

«Networked»

Sustainability manager



- › combines future **environmental and regulatory requirements** with its **knowledge of the supply network**
- › integrates **sustainability into category strategies** and **procurement processes**
- › takes responsibility for **sustainability risk assessments** of suppliers and supply chains
- › develops **cost-benefit analysis** of sustainable alternatives

Innovation partner manager



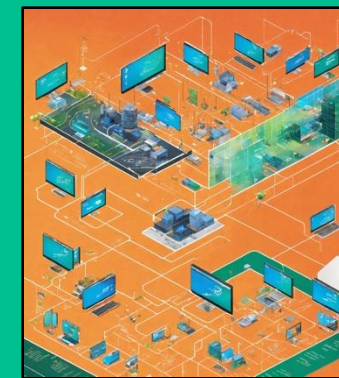
- › Identifies and evaluates **external trends, ideas and innovations**
- › develops product and service **innovations in cross-functional teams**
- › Builds up **cross-innovation ecosystem** and brings together with relevant investors
- › promotes the **development of new partnerships** with selected strategic suppliers / partners

Transactional champion







- › **Focuses on P2P as fully automated** through digital technology and **replacement of human labor** (processing orders, requesting goods and services, validating receipt of materials, paying invoices, etc.)
- › Uses AI for **data generation and analysis in transactions**
- › Establishes AI-tools as **digital assistance to transfer human interaction in routines** with minimal time requirements

Value chain control tower



- › has a coherent and integrated understanding of the **vertical and horizontal supply chain**
- › Establishes transparency **beyond tier-1 suppliers**
- › Develops an early warning system through **resilient network design** and **proactive risk management**
- › brings together the **various members** of a value chain on **one digital platform**
- › Uses AI for **advanced supply chain analytics**

Map of digital procurement tools | We have identified and described over 70 digital tool patterns for procurement

	BUSINESS INNOVATION INTEGRATING THE RIGHT PARTNERS «Agile»	EFFICIENCY DOING THINGS RIGHT «Lean»	EFFECTIVENESS DOING THE RIGHT THINGS «Networked»
procurement as service-oriented business model	› To be defined 	Category efficiency leader › Intelligent Spend Management › Procurement Data Categorizer › Predictive Demand Forecasting › Automatic Trend Analysis › Market Intelligence › Supplier Discovery › Category Lever Analysis and Category Scenario Development › Data Analytics & Controlling › Parts Search & Selection › Automatic Supplier Recommendation › Vendor Management System (VMS) › KI-based trainings › ... Σ12	Sustainability manager › Sustainable Supplier Evaluation › Sustainable Supplier Risk Management › Inventory Management › On-demand/On-location Parts Manufacturing › Sustainable Supply Chain Evaluation › Sustainable Supply Chain Risk Management › Blockchain-based Supply Chain Visibility › Circular Economy Management › Waste Reduction › Carbon & Environment Footprint Tracker › Carbon Compensation & Offsetting › Sustainability Enterprise Management › Enterprise ESG Analytics › ... Σ13
Innovation partner manager	› Product Lifecycle Management (PLM) › Agile Project Management › Online Workshop Tools › Technology / Trend Radar › Innovation Management Platform › Supplier Innovation Platform <ul style="list-style-type: none"> - Fast Track (Scouting - Sourcing - Contracting - Onboarding) - Hackathon - Croudsourcing - External incubator - Co-experimentation track - Co-creation session - Structured partnership - Co-development track - OEM Engagement Program Σ14 	Transactional champion › Procurement Bots › Purchase Order Management (RPA) › Predictive OTIF (On-Time In-Full) › Intelligent Invoice Automation › Accounts Payable (AP) Automation › E-Catalog › MRO Procurement › Dynamic Discounting › Transport Optimization › E-Auctions › Negotiation Tool › Negotiation Robots › AI Contract Analysis › Blockchain-based Contract Auditing › On-demand/On-location Parts Mfg. › ... Σ15 	Value chain control tower › Multidomain Master Data Management › Network & Market Data Intelligence › Digital Value Management › Predictive Maintenance › Digital Supply Chain Twin › Supplier Selection › Inventory Management/Optimization › Working Capital Optimization › Predictive ETA (Estimated Time of Arrival) › Supplier Database / Platform › Supplier Evaluation & Monitoring › Supplier Integration & Collaboration Platform › Supplier Risk Management › Supplier Development & Controlling › Smart Contracts Platform › Contract Life-Cycle Management › ... Σ16 

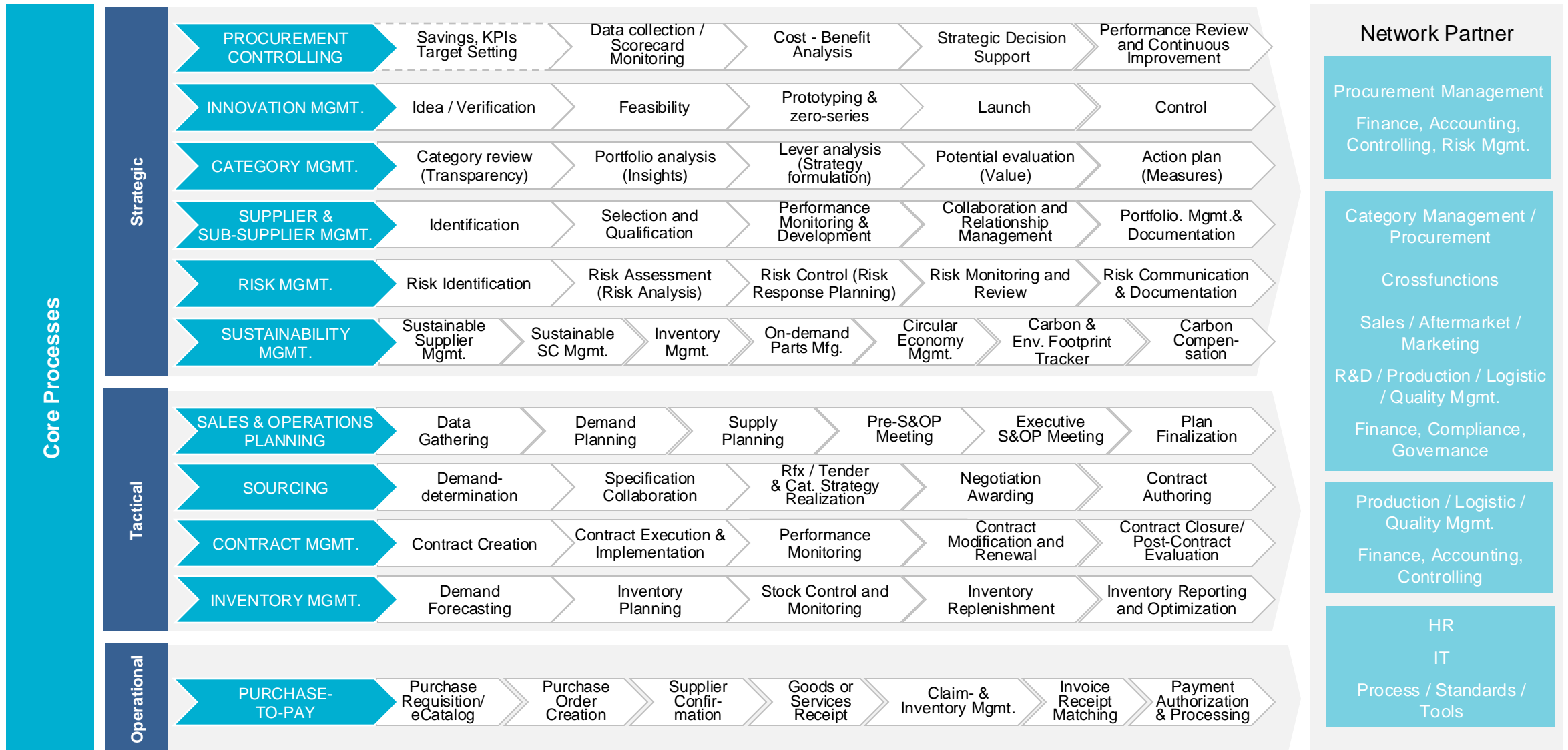
DIGITAL TOOL MAP | The number of digital tools for procurement is growing rapidly – there are over 150 solution providers for sustainable procurement alone

Status
Oct. 2024



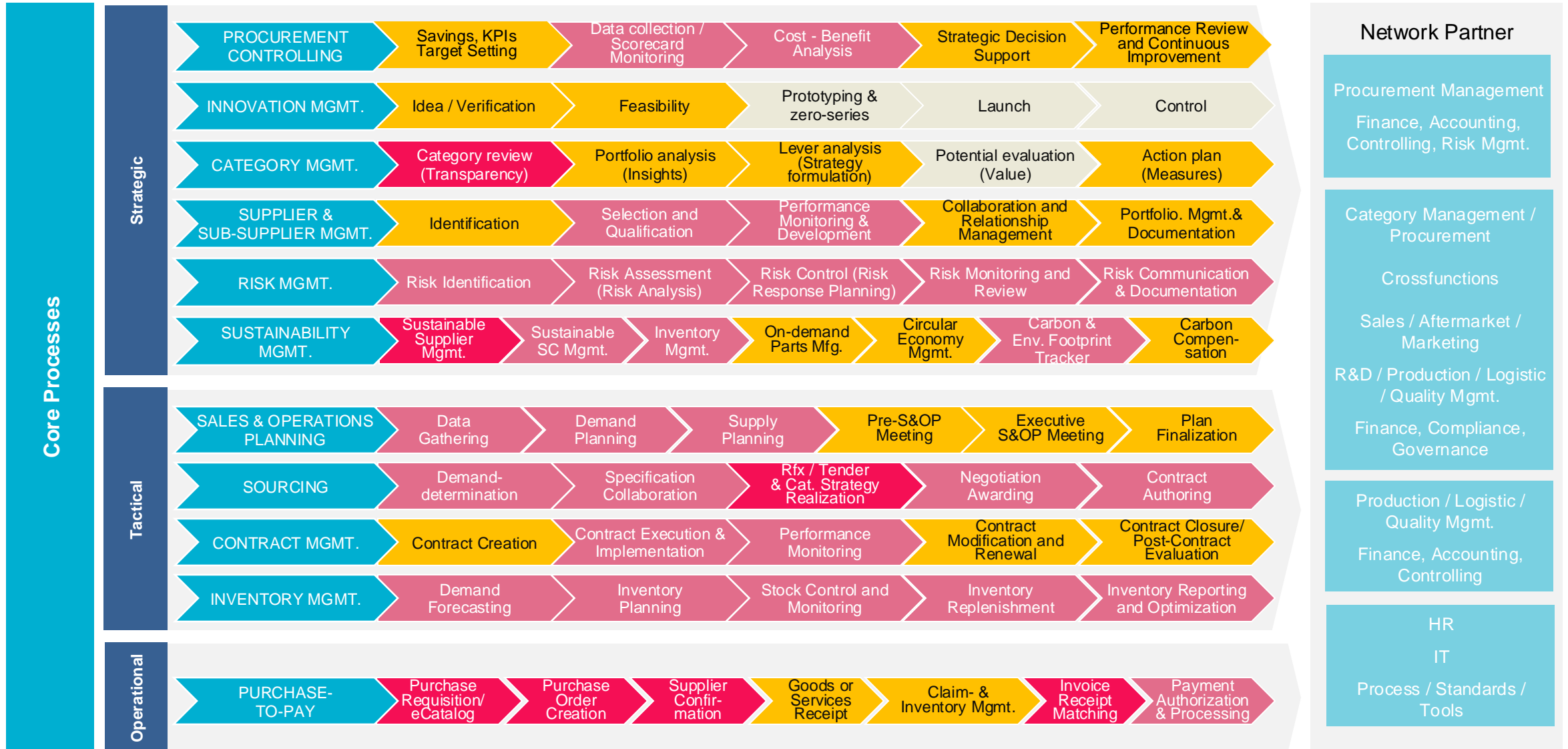
Procurement process house | Eleven core processes across three levels

Procurement Process House - Overview



Digital HeatMap of procurement | We have identified over 200 digital use cases for procurement along the 60 sub-processes

Digital HeatMap of procurement



Digital leaders | The proportion of digital leaders is highest in the efficiency sector and lowest in the innovation sector

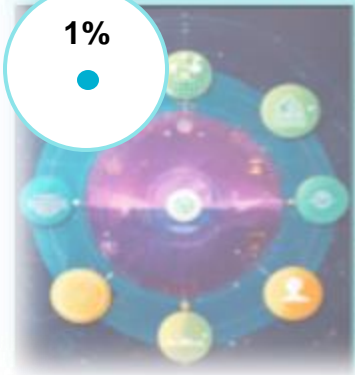


Percentages represent the proportion of companies that **have achieved "Digital Leader" status** (n = 189)

BUSINESS INNOVATION
INTEGRATING THE RIGHT PARTNERS

«Agile»

Procurement as a service-oriented business model



1%

- › Central hub for **insights & forecasts**
- › sees itself as an **internal service provider** that offers its customers **efficient, digital new services**
- › **Forecasting**
- › **Process tracking**
- › **Training courses**
- › **Plug & Play** from acquisitions
- › **Services to third parties**

EFFICIENCY
DOING THINGS RIGHT

«Lean»

Category efficiency leader



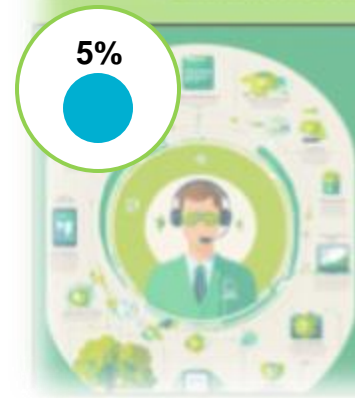
14%

- › **Cross-functional spend management** on one digital platform
- › Develop **flexible models** for **cost-conscious design** in real time and deliver **business cases** for **ad-hoc minimization of component and material complexity**
- › **Cooperate** with the responsible departments
- › Consideration of procurement aspects in **early development phases**

EFFECTIVENESS
DOING THE RIGHT THINGS

«Networked»

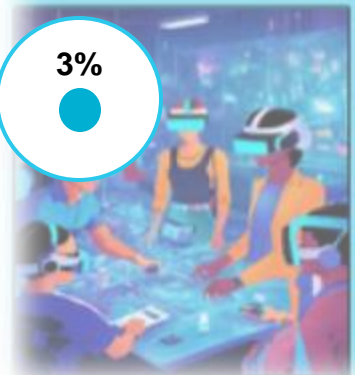
Sustainability manager



5%

- › combines future **environmental and regulatory requirements** with its **knowledge of the supply network**
- › integrates **sustainability** into **category strategies** and **procurement process** and takes responsibility for **sustainable risk assessments** of suppliers and supply chains
- › develops **cost-benefit analysis** of sustainable

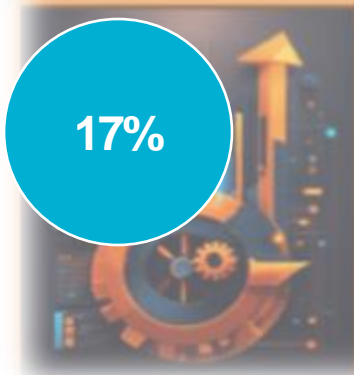
INNOVATION PARTNER MANAGER



3%

- › Identifies and evaluates **external trends, ideas and innovations**
- › develops product and service **innovations in cross-functional teams**
- › Builds up **cross-innovation ecosystem** and brings together **innovative startups** together with relevant investors promotes the **development of new partnerships** with selected strategic suppliers / partners

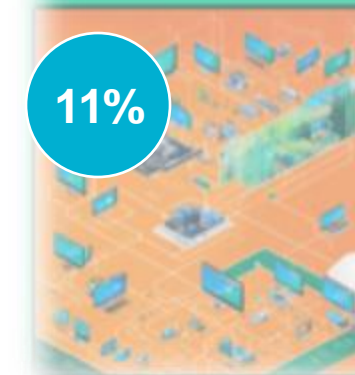
TRANSACTIONAL CHAMPION



17%

- › **Focuses on P2P as fully automated** through digital technology and **replacement human labor**
- › Uses AI for **data generation and analysis in transactions** (processing orders, requesting goods and services, validating receipt of materials, paying invoices, etc.)
- › Establishes AI-tools as **digital assistance to transfer human interaction in routines** with minimal time requirements

VALUE CHAIN CONTROL TOWER



11%

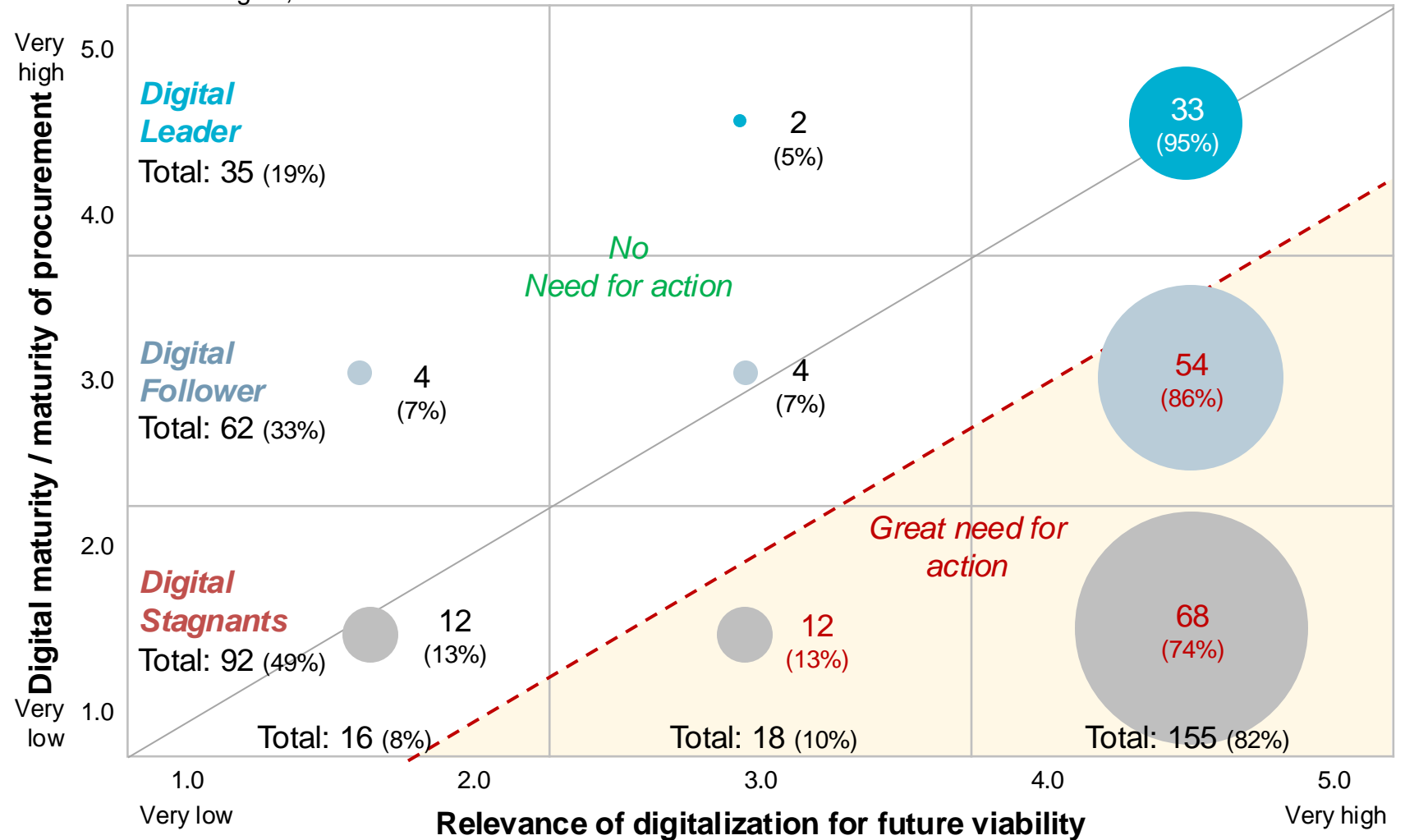
- › has a coherent and integrated understanding of the **vertical and horizontal supply chain**
- › Establishes view **beyond tier-suppliers**
- › brings together the **various members** of a value chain on **one digital platform**
- › Development of an early warning system through **resilient network design and proactive risk management**
- › Uses technologies for **advanced supply chain analytics**

Digital maturity level of procurement D-A-CH | The digital transformation of many procurement organizations is stagnating

There is a need for action at 71% of the procurement organizations surveyed in the D-A-CH region

- › 19% of the organizations surveyed can be described as "digital leaders"
- › 33% are "digital followers" with challenges in implementing the various digital roles of procurement
- › 49% are stagnating in the digital transformation of their procurement
- › 134 procurement organizations (71%) have a need for action, of which 80 (42%) have a great need for action to improve their digital maturity level

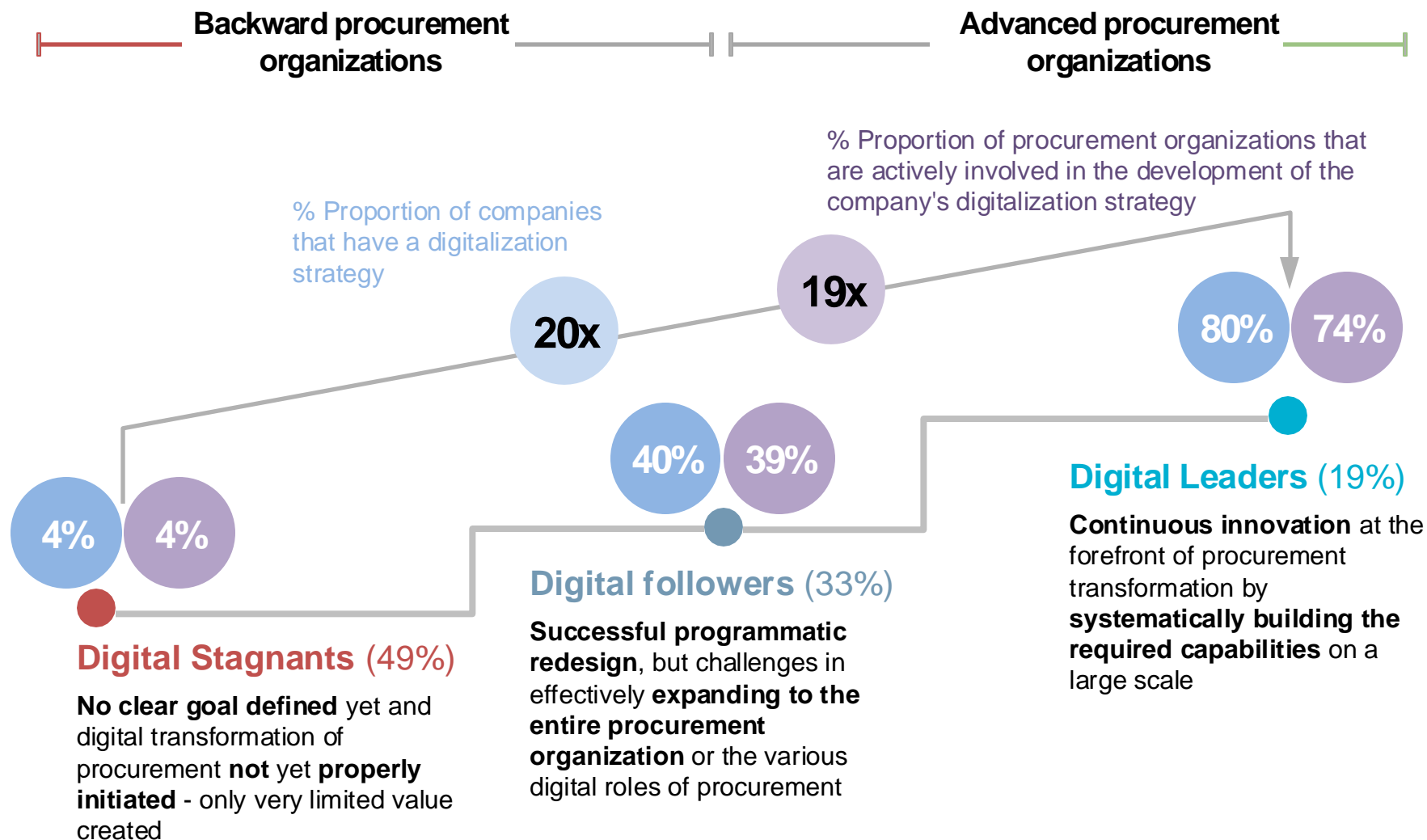
Distribution of procurement organizations according to "digital maturity" and "relevance"
DACH region, all sectors



What distinguishes digital leaders | The company's digitalization strategy and active involvement of procurement are key characteristics of digital leaders

Digital transformation at company level is a key driver of digital leadership in procurement

- › The proportion of companies with a **digitalization strategy** is **20 times higher** among the "Digital Leaders" than among the "Digital Stagnants"
- › The proportion of the procurement organization that is **actively involved in the digital transformation** of the company is **19x higher** among the "Digital Leaders" than among the "Digital Stagnants"



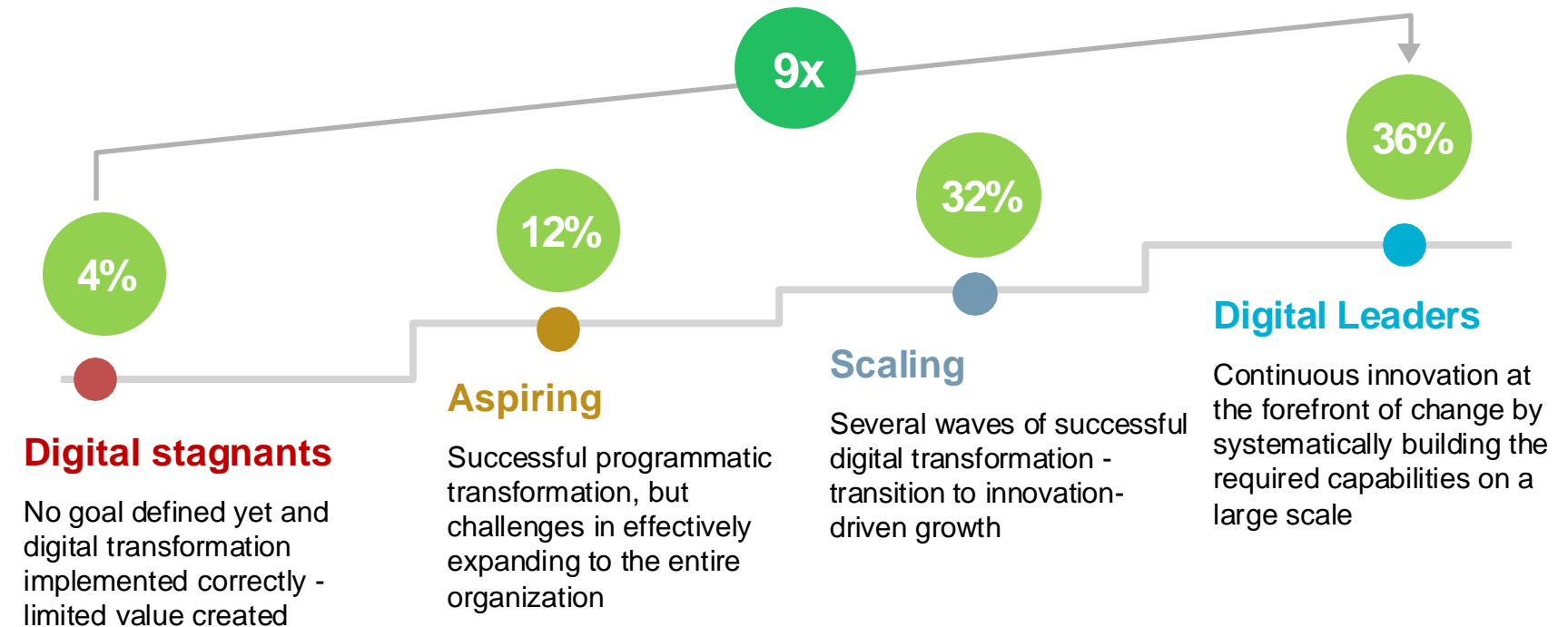
What sets sustainability leaders apart | Sustainability leaders develop clear sustainability advantages through digitalization and innovative strength



Characteristics of sustainability leaders in procurement

- › **Priority:** As achieving sustainability goals is very important to these companies, they are also **willing to invest more in sustainable procurement** and improving **supply chain transparency**
- › **Holistic:** Managers view sustainability commitment **more holistically**, i.e. as an **integral part** of their supply chain management
- › **Tools:** They have established a **broader range of instruments and AI tools** for sustainable procurement

The proportion of companies considered leaders in sustainability is 9 times higher among the "Digital Leaders" than among the "Digital Stagnants"



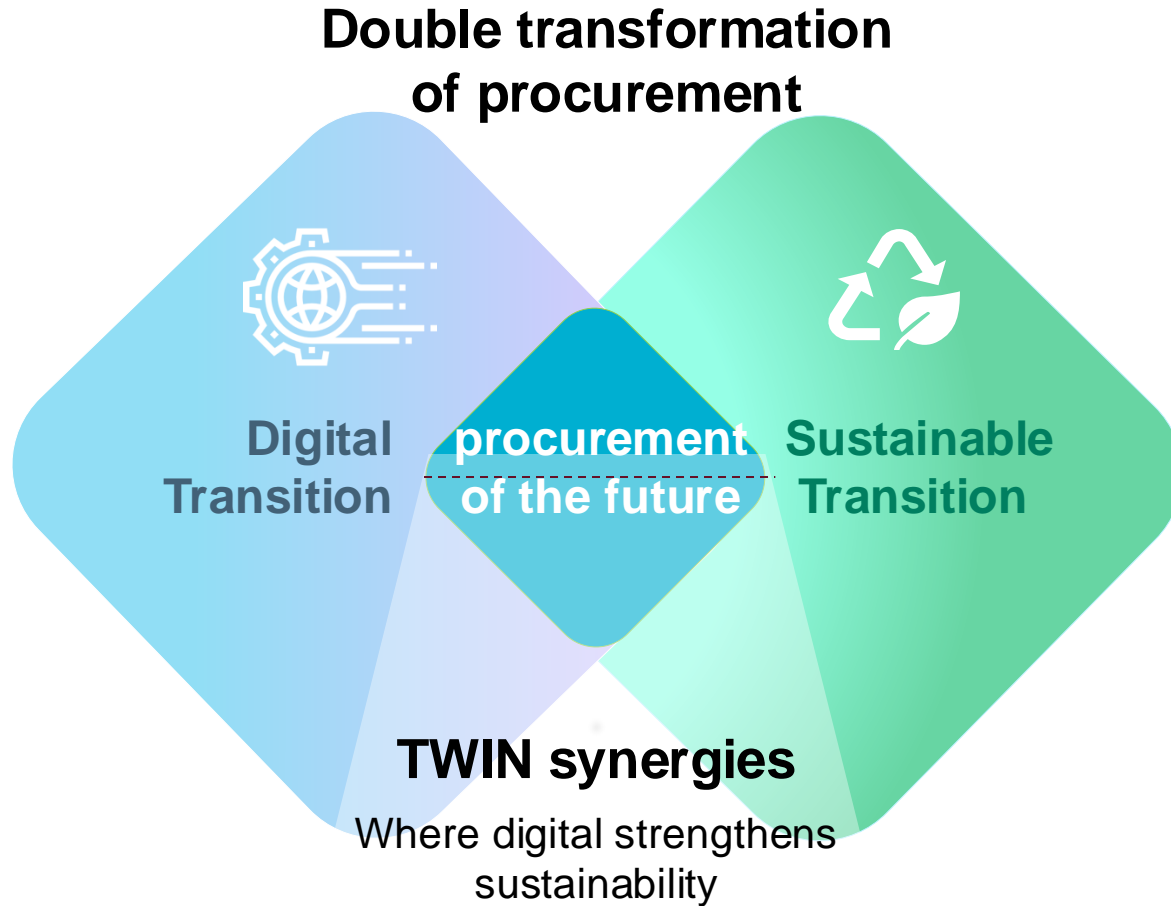
% Share of sustainability leaders: Percentage of companies that can be considered leaders in sustainability

- › **Data** will continue to grow in importance
- › Changing **tasks and roles**
- › **Degree of automation** is steadily increasing - **Autonomous systems** will emerge
- › Man & machine will be most successful **in combination**
- › **Communication**: AI - humans; AI - AI
- › **Industry 4.0**: optimized by AI



<p>Innovation partner manager</p> <ul style="list-style-type: none"> › Identifies and evaluates external trends, ideas and innovations › develops product and service innovations in cross-functional teams › Builds up cross-innovation ecosystem and brings innovative startups together with relevant investors › promotes the development of new partnerships with selected strategic suppliers / partners 	<p>Procurement as a service-oriented business model</p> <ul style="list-style-type: none"> › Central hub for insights & forecasts › sees itself as an internal service provider that offers its customers efficient, digital new services › Forecasting › Process tracking › Training courses › Plug & Play from acquisitions › Services to third parties
<p>Value chain control tower</p> <ul style="list-style-type: none"> › has a coherent and integrated understanding of the vertical and horizontal supply chain › Establishes view beyond tier-1 suppliers › brings together the various members of a value chain on one digital platform › Development of an early warning system through resilient network design and proactive risk management › Uses technologies for advanced supply chain analytics 	<p>Sustainability manager</p> <ul style="list-style-type: none"> › combines future environmental and regulatory requirements with its knowledge of the supply network › integrates sustainability into category strategies and procurement process and takes responsibility for sustainable risk assessments of suppliers and supply chains › develops cost-benefit analysis of sustainable alternatives
<p>Transactional champion</p> <ul style="list-style-type: none"> › Focuses on P2P as fully automated through digital technology and replacement human labor › Uses AI for data generation and analysis in transactions (processing orders, requesting goods and services, validating receipt of materials, paying invoices, etc.) › Establishes AI-tools as digital assistance to transfer human interaction in routines with minimal time requirements 	<p>Category efficiency leader</p> <ul style="list-style-type: none"> › Cross-functional spend management on one digital platform › Develop flexible models for cost-conscious design in real time and deliver business cases for ad-hoc minimization of component and material complexity › Cooperate with the responsible departments › Consideration of procurement aspects in early development phases

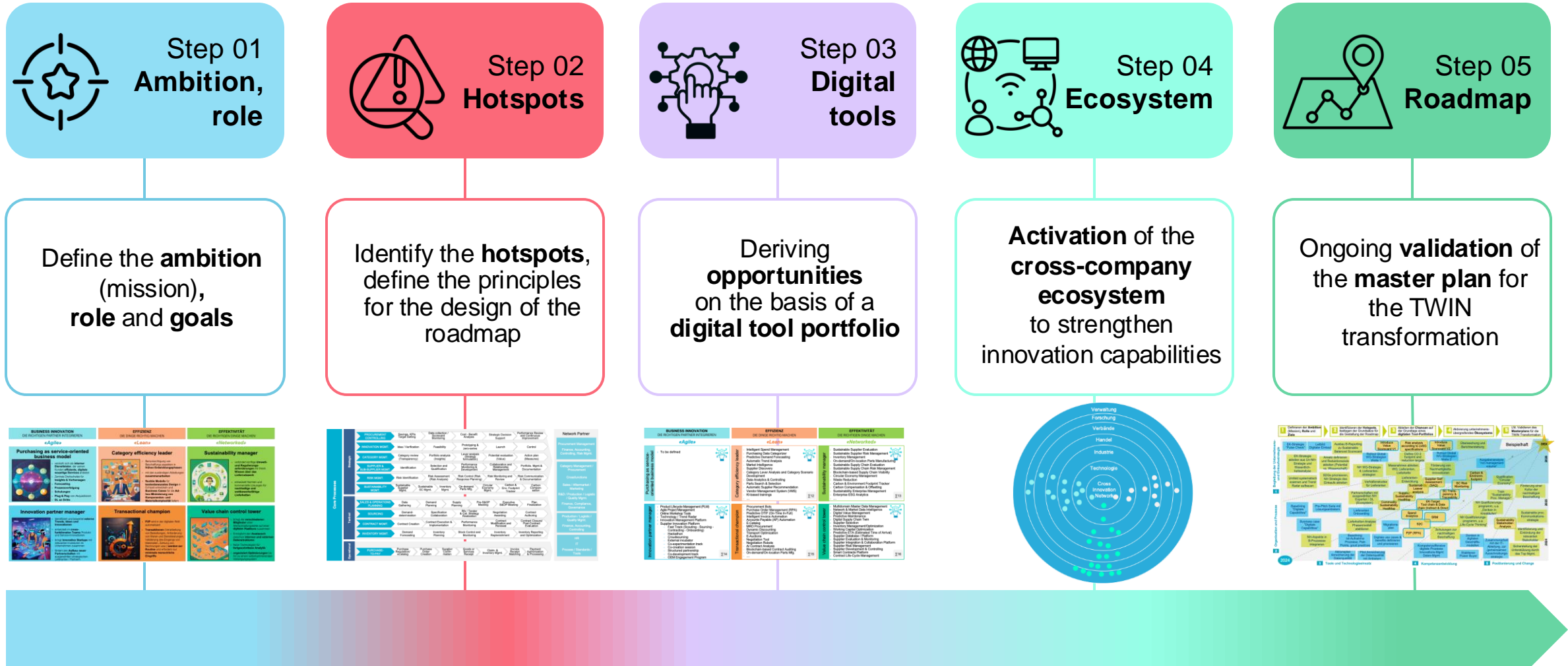
▶ **Two "classes" of procurement organizations are emerging: with AI vs. without AI**



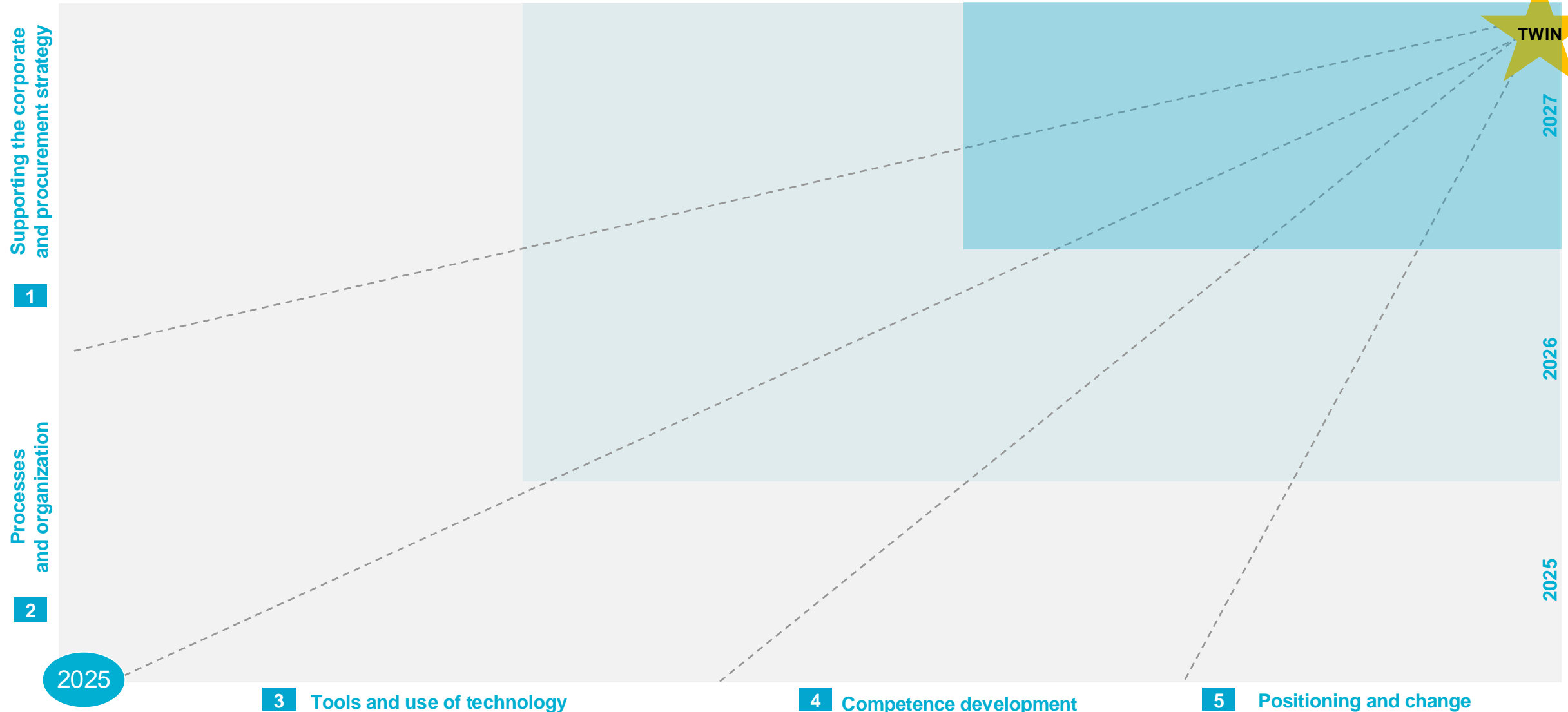
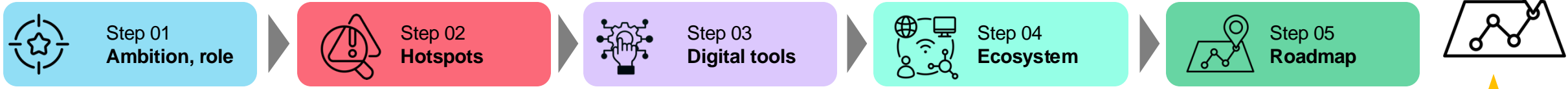
- › The **TWIN transformation** recognizes that **digital technology and data** offer huge and largely **untapped potential to advance sustainability goals**
- › Instead of dealing with the topics of digitalization and sustainability in isolation, **leading procurement organizations** combine **the two success-critical functions and competencies** in order to tap into advantages and synergies

▶ The **TWIN transformation** ensures **efficiency, effectiveness** as well as **innovation & growth** by **accelerating the realization of digital and sustainability goals** along the value chain

TWIN Transformation | Best Practice procurement combines top-down and bottom-up views and pursues a holistic approach



TWIN Transformation | RoadMap of digital and sustainable procurement of the future



Source: IPG Research, PPE Benchmarking PPE ≈ Procurement Performance Excellence @ IPG NH ≈ Sustainability

TWIN Transformation | RoadMap of digital and sustainable procurement of the future

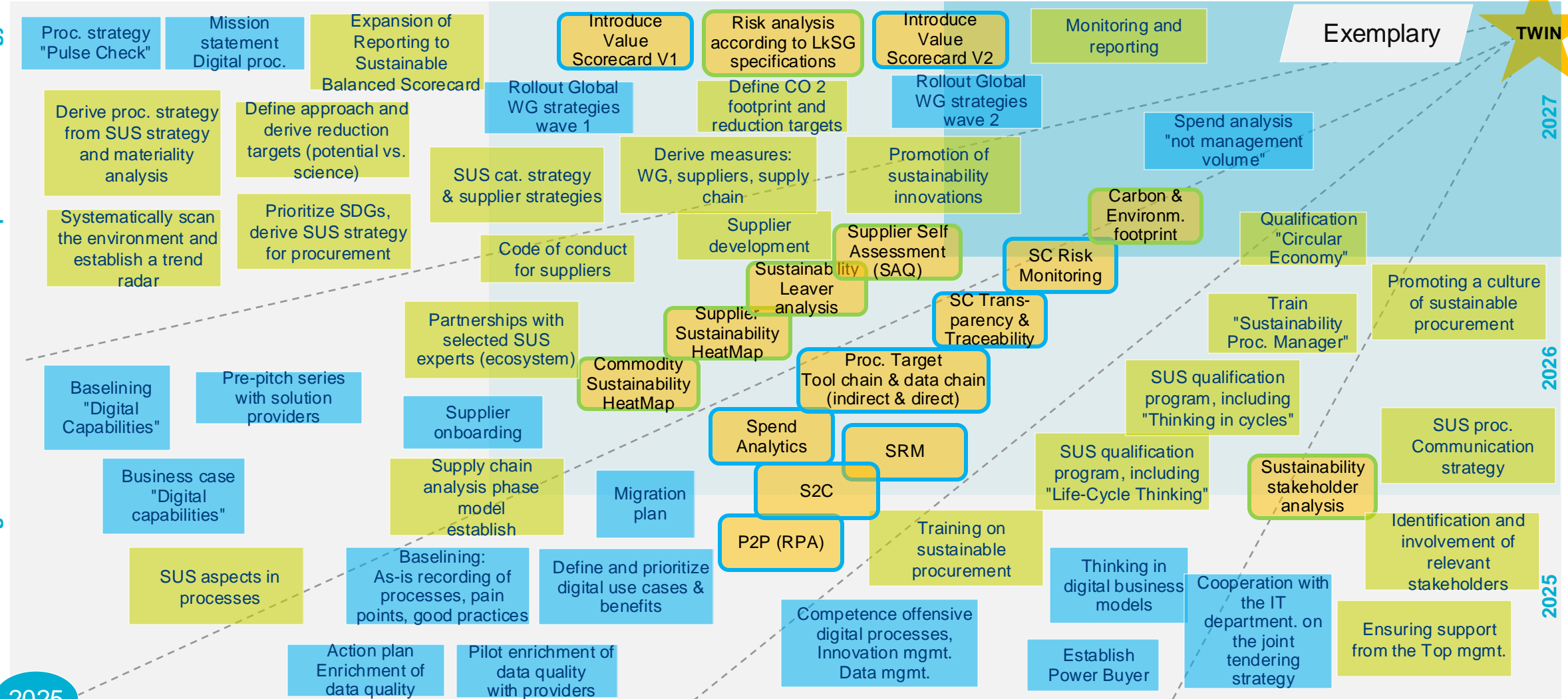


Supporting the corporate and procurement strategy

1

Processes and organization

2



3 Tools and use of technology **4 Competence development** **5 Positioning and change**

TWIN Transformation | RoadMap of digital and sustainable procurement of the future

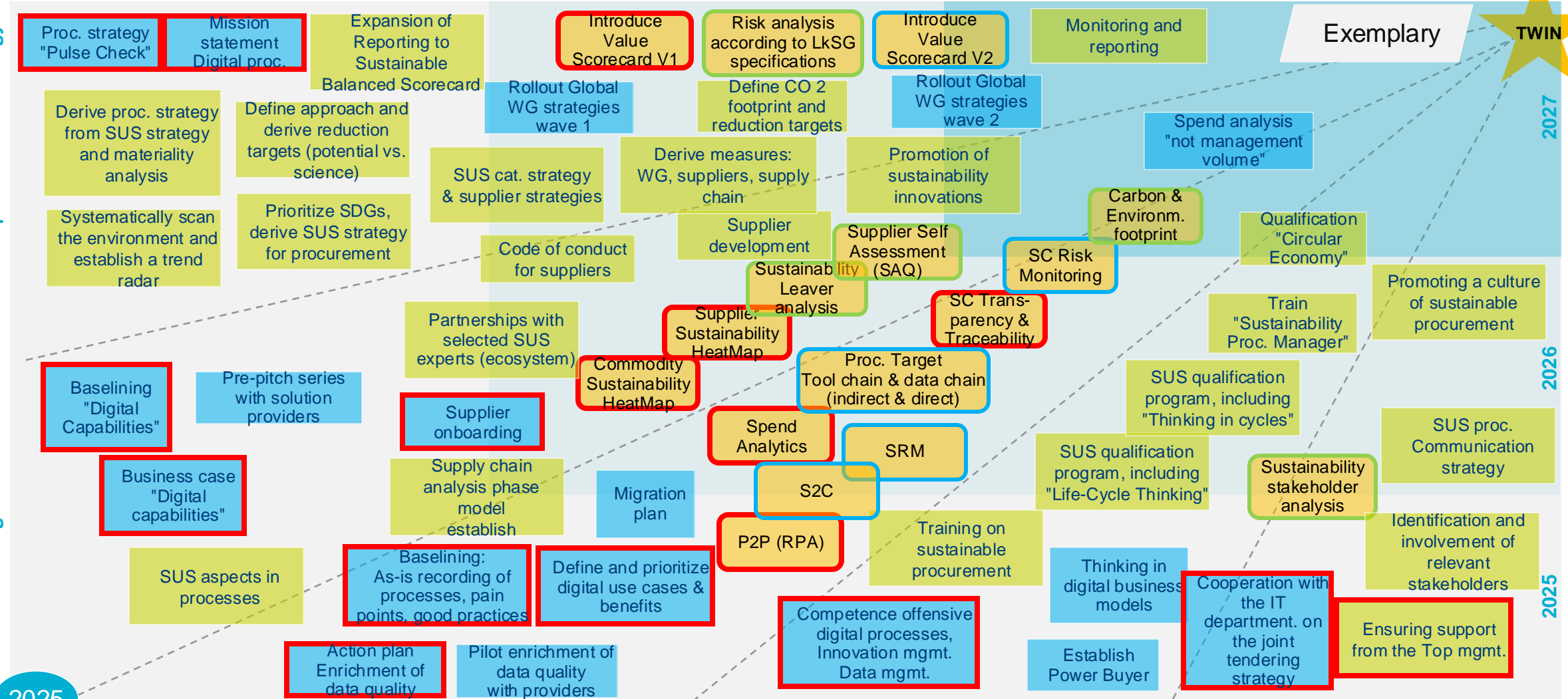


Supporting the corporate and procurement strategy

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Processes and organization

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Contact

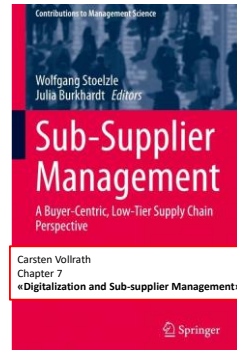


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30+ years

international & multi-disciplinary procurement, supply chain and business transformation experience

Selected publications



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IPG – The Business Transformers

We guide companies to **innovate**, **perform** and **grow** their business

As a leading international thought factory and expert for «**Innovation - Performance - Growth**», IPG accompanies many enterprises in the transformation of their organization **from vision to measurable** implementation and realization of growth potentials as well as cost and efficiency improvements.

IPG stands for **digital and sustainable transformation in five key areas**:

1. Digital strategy & business model
2. Sustainable strategy & business model
3. Digital & sustainable value chain and processes
4. Digital & sustainable procurement and supply chain
5. Digital & sustainable production

By **combining digitalization and sustainability** in a holistic approach, our clients tap into **innovation, productivity, and growth potential**. At the same time, they meet the expectations of key stakeholders (in particular investors, customers, employees, and government/politics) and thus ensure their **future viability**.

We manage complex transformation tasks in a **managed network approach** that bundles the resources, competencies, and skills of **IPG and hand-picked network partners** in a multi-disciplinary and simultaneous manner.

As a trademark, we integrate the know-how of suppliers, customers, research partners, and recognized experts via **Open Innovation** and thus **significantly increase the quality and speed** of our clients' value creation potentials.

Through our global Innovative Leaders network, we provide **exclusive access** to leading research institutions and recognized, hand-picked experts.

Read what customers say about us online under **«success stories»**.

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