



**IMT Mines Albi-Carmaux**  
École Mines-Télécom



**german-french academy  
for the industry of the future**  
founded by IMT and TUM

# COSMOS Project

## Requirements and Recommended Actions for the Supply Chain of the Future

COSMOS:

**Collaborative & Open Supply chain Management Operating System**

Main objectives of the project:

**Sharing a vision about the Supply Chain new normal.**

**Developing a first set of relevant and innovative Supply Chain decision-support solutions.**

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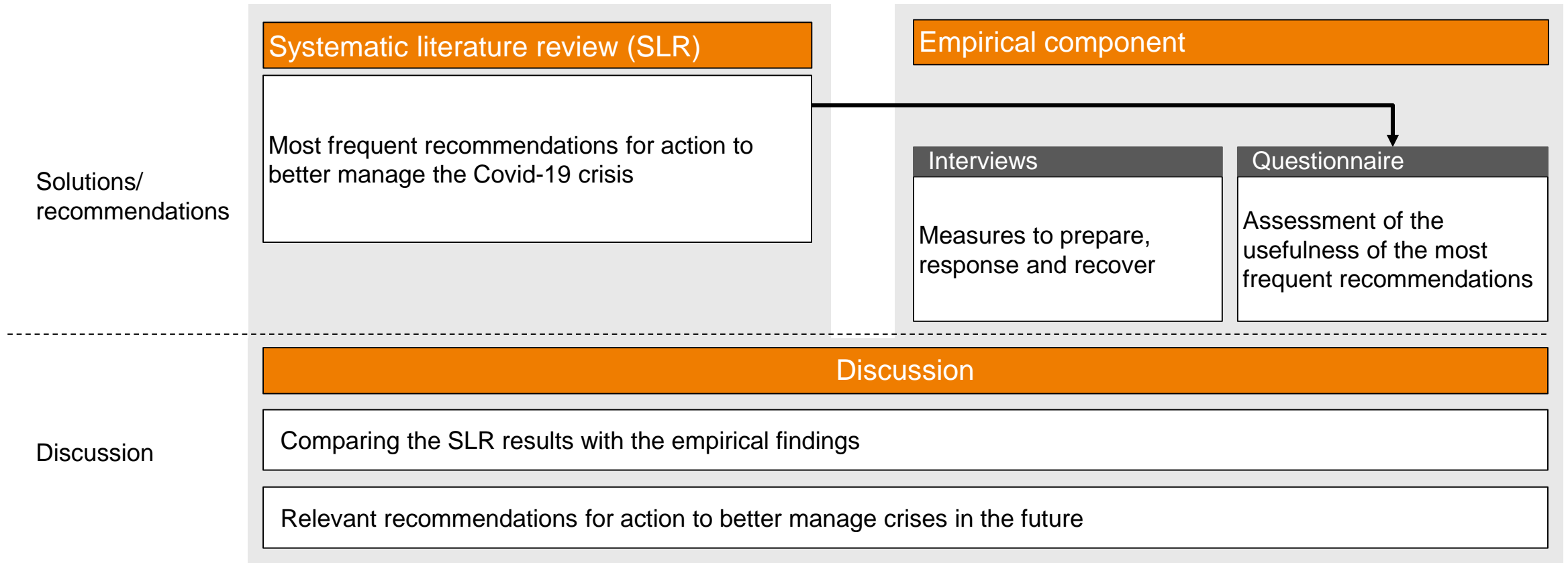
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# SHARING A VISION ABOUT THE SUPPLY CHAIN NEW NORMAL

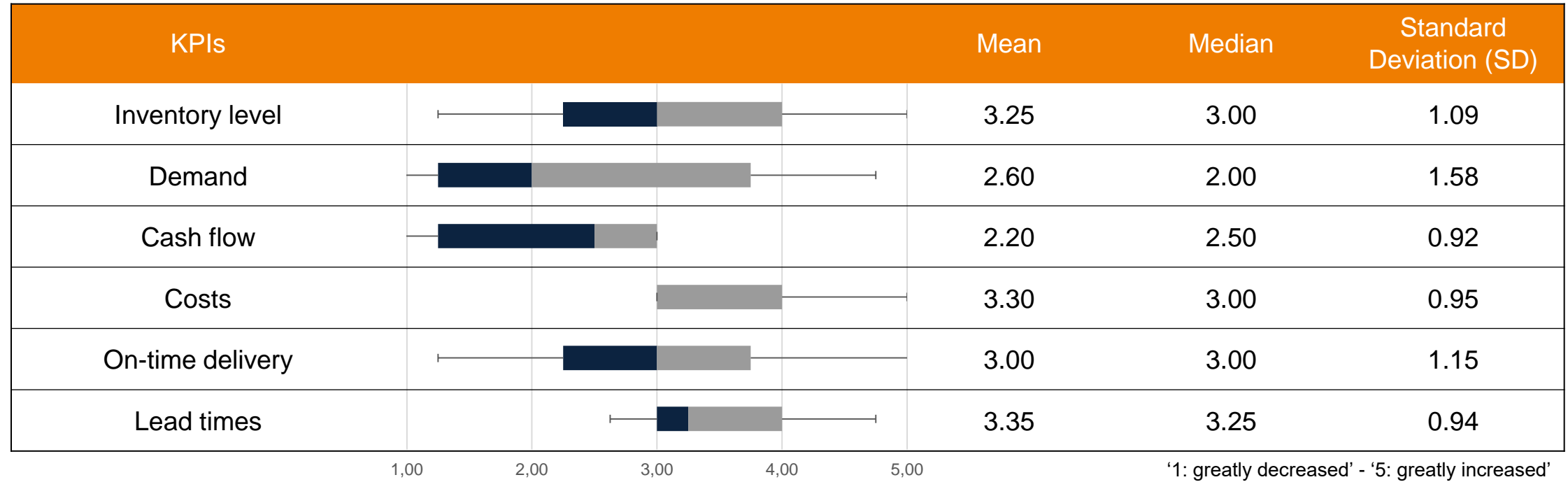




SCOR Process	Identified Recommendation	Percentage of mentioned articles*
PLAN	Real-time monitoring & information sharing	78%
	Quick decision making	53%
	Collaborative & data driven demand forecasting	39%
SOURCE	Multisourcing & supplier diversification	31%
	Alternative & backup suppliers	36%
	Localization, regionalization & reshoring	58%
	Supplier collaboration & strategic partnerships	56%
	Adaptive warehouse capacity	36%
MAKE	Cyber physical systems & automation	53%
	Adaptive production	39%
DELIVER	Flexible delivery routes, alternative and supplemental delivery options	31%
ENABLE	Scenario development & simulation	47%
	Active & collaborative risk management	47%

# EMPIRICAL COMPONENT

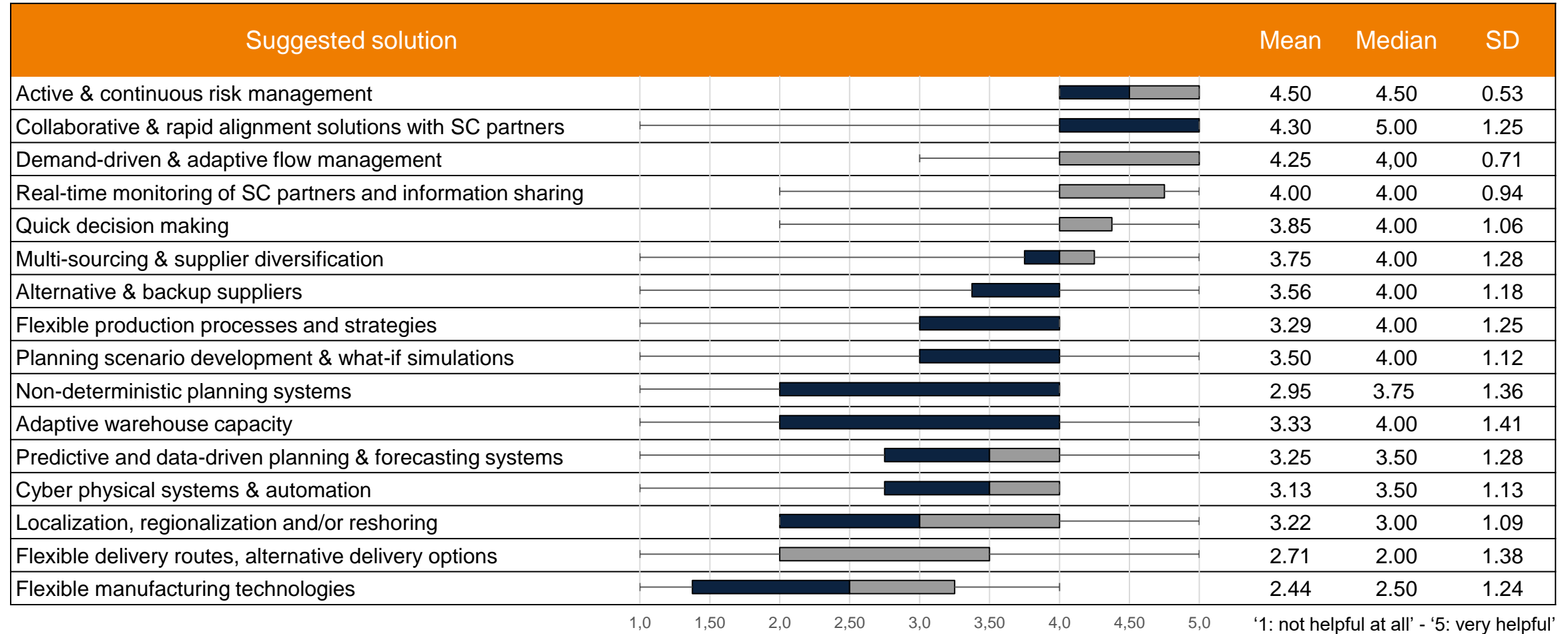
Impact of Covid-19 on the supply chains (SCs) of the interviewed partners



▶ There were major differences in the individual sectors, with the decline in demand and cash flow being addressed by many experts.

# EMPIRICAL COMPONENT

SC experts' opinion on the most relevant solutions in the literature



### Solutions popular in the literature and confirmed by SC experts

- Active & continuous risk management and collaborative risk management with suppliers and customers
- Collaborative & rapid alignment solutions with SC partners
- Real-time monitoring of SC partners & Information sharing
- Quick decision making
- Multi-sourcing & supplier diversification
- Alternative & backup suppliers
- Planning scenario development & what-if simulations

### Solutions popular in the literature sample and less popular among SC experts

- Flexible delivery routes, alternative and/or supplemental delivery options
- Flexible manufacturing technologies

▶ Focus on improving partner collaboration and increase sourcing flexibility, rather than concentrating solely on enhancing manufacturing and delivery processes.



### Relevant recommendations for action to better manage crises

Plan	Source	Enable
<ul style="list-style-type: none"><li>• Integrate more agile practices, find a balance between leanness, agility and flexibility and invest more in risk prevention and mitigation strategies in the future</li><li>• Integrate collaboration practices and adapt to VUCA (velocity, uncertainty, complexity and ambiguity)</li><li>• Adopt solutions providing visibility or create new ways to increase visibility across the SC</li><li>• Make key decisions as quickly as possible</li><li>• Include the costs of risks in the sourcing planning</li></ul>	<ul style="list-style-type: none"><li>• Build a strong network of suppliers and increase the communication with and between them</li><li>• Avoid single sourcing. If not possible build up safety stocks.</li><li>• Have alternative &amp; backup suppliers</li><li>• Be flexible and take advantage of opportunities</li></ul>	<ul style="list-style-type: none"><li>• Adapt to the new digital means of communication and integrate new practices</li><li>• Use virtual platforms to connect with customers and build up trust online</li><li>• Make active use of information sharing platforms for SCs</li><li>• Use planning scenario development tools and what-if simulations</li><li>• Provide information that is as accurate as possible</li><li>• Collaborate, build partnerships and communicate frequently with the key SC players</li></ul>

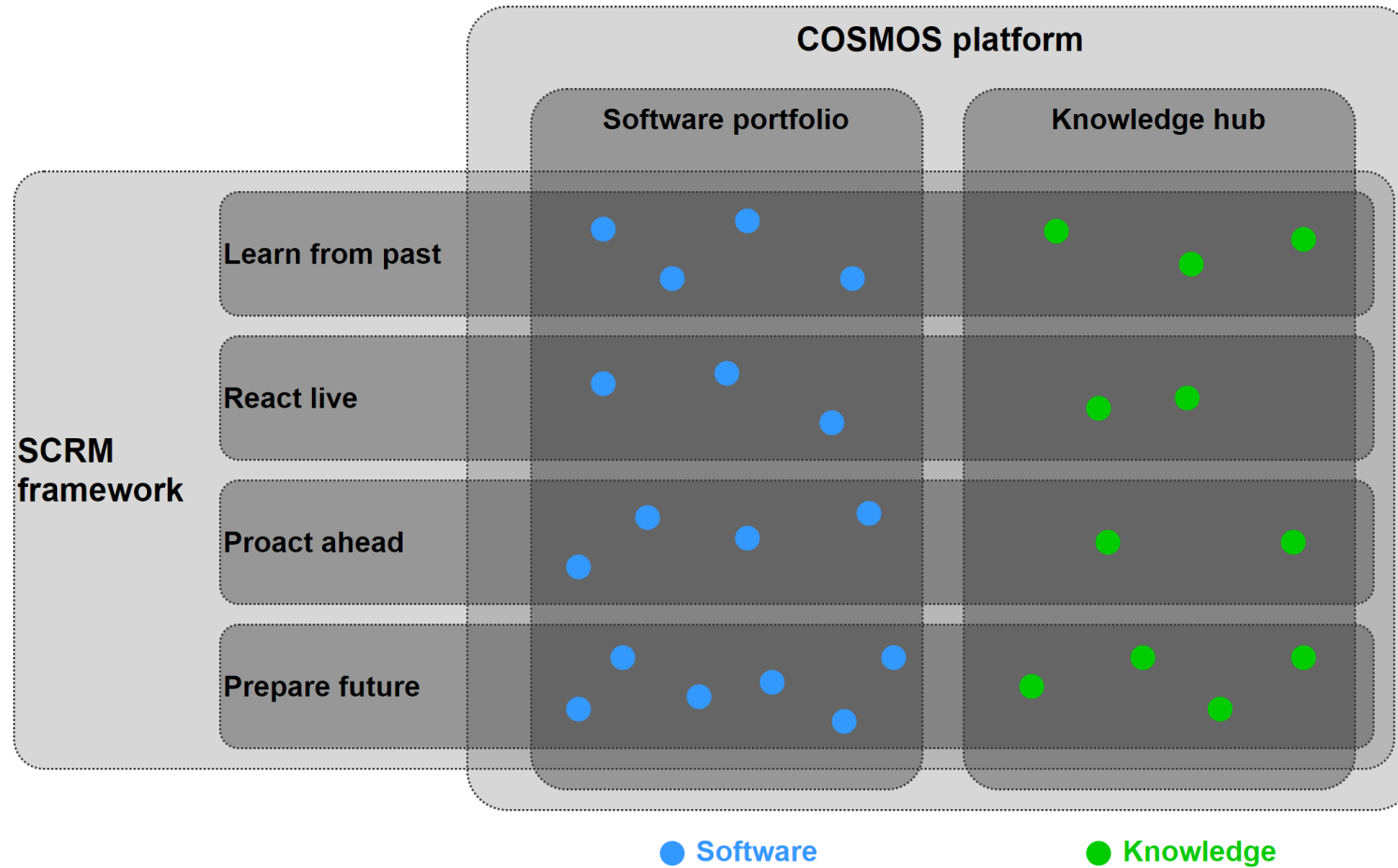
# COSMOS PLATFORM



The COSMOS platform is developed to provide practitioners and scholars with

- (1) collaborative and open online software prototypes
- (2) a structured knowledge hub

They can use to assess and rethink their supply chain management practices in the context of the SC new normal.

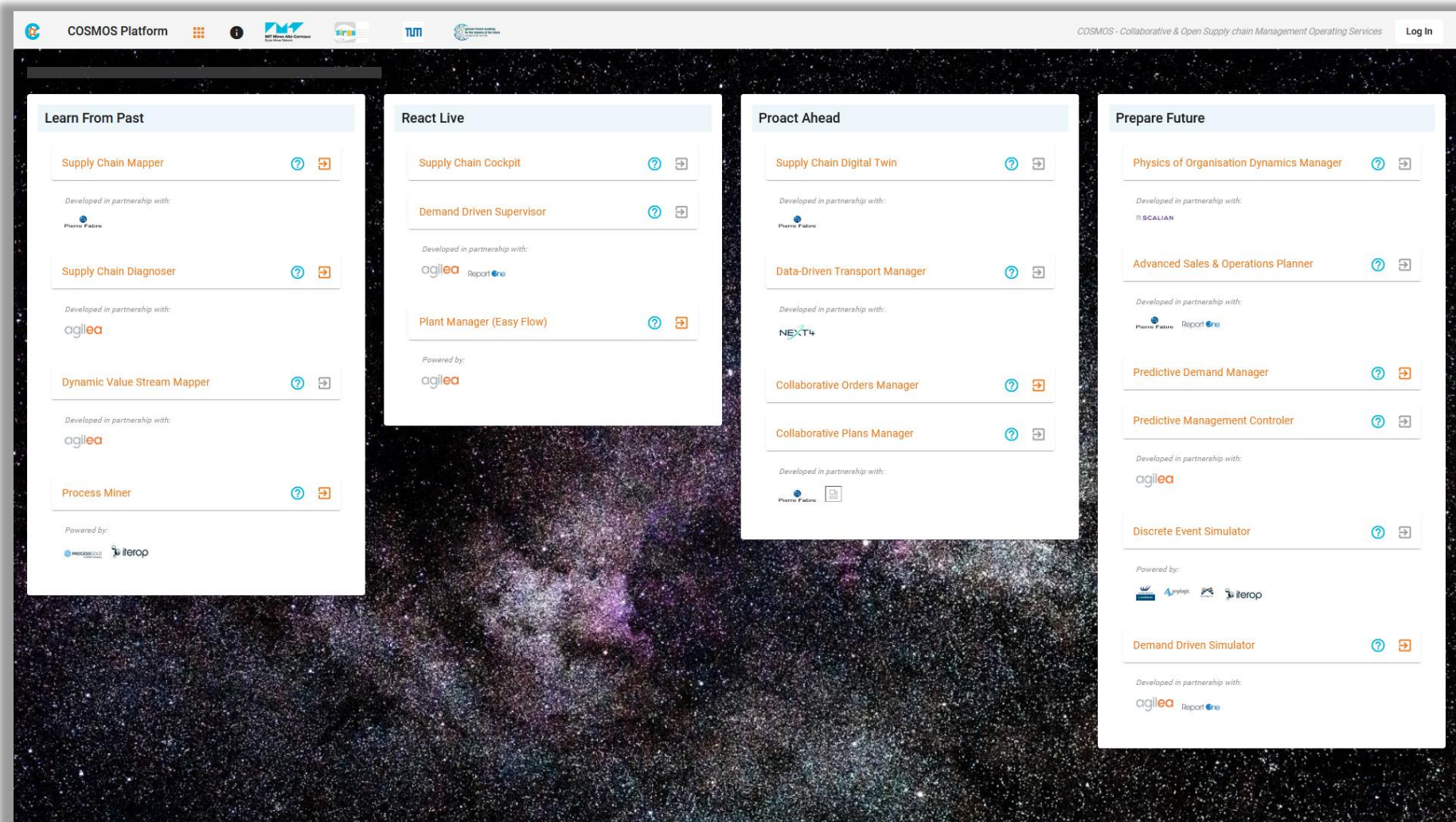


### 1. Software portfolio

Provide practitioners and scholars with collaborative and open **online software prototypes** they can use to **assess and rethink their supply chain management practices** in the context of the new normal.

### 2. Knowledge hub

Provide practitioners and scholars with a structured **knowledge hub** they can use to **understand the new normal and its stakes**, as well as **assess and rethink their supply chain management practices** in the context of the new normal.





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