

Improve the Asset Availability/cost ratio by focused spare parts inventory control

Jürgen Donders

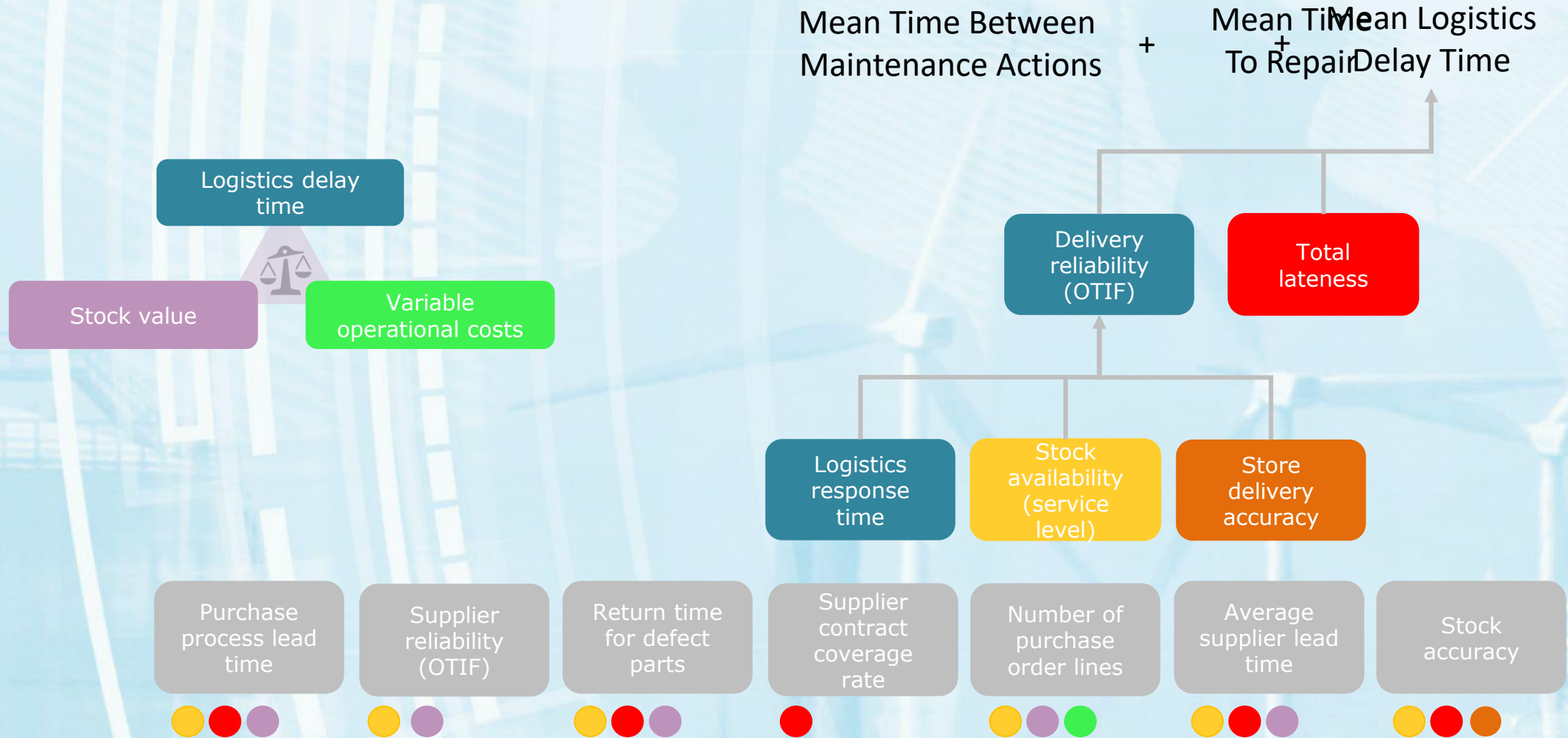
THEME

Focused spare parts inventory control

APM

Mean Time Between Maintenance Actions

$$\text{Operational Availability} = \frac{\text{Mean Time Between Maintenance Actions} + \text{Mean Time To Repair} + \text{Mean Logistics Delay Time}}{\text{Mean Time Between Maintenance Actions} + \text{Mean Time To Repair} + \text{Mean Logistics Delay Time}}$$



Focused spare parts inventory control

APM

Mean Time Between
Maintenance Actions

$$\text{Operational Availability} = \frac{\text{Mean Time Between Maintenance Actions}}{\text{Mean Time Between Maintenance Actions} + \text{Mean Time To Repair} + \text{Mean Logistics Delay Time}}$$

- Logistics delays are often not visible to management
- Mechanics are too proud to let that happen, so they fix:
 - Next higher assy
 - Cannibalization
 - With similar, but slightly modified parts
 - Or even... duct tape
- But delays and costs are there... hidden

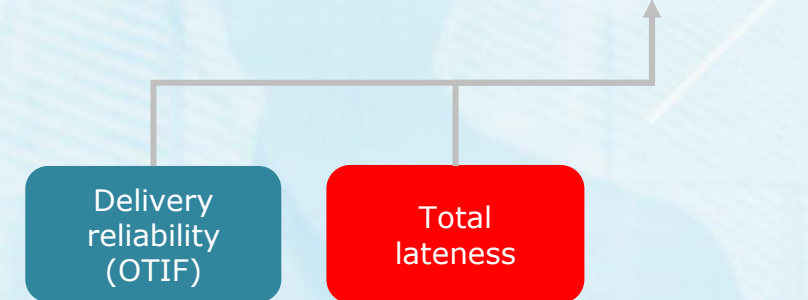
Focused spare parts inventory control

APM

Mean Time Between
Maintenance Actions

$$\text{Operational Availability} = \frac{\text{Mean Time Between Maintenance Actions}}{\text{Mean Time Between Maintenance Actions} + \text{Mean Time To Repair} + \text{Mean Logistics Delay Time}}$$

- To improve OTIF to a workorder and reduce lateness:
 - Manage delivery dates
 - Expedite, expedite, expedite!
 - Seek for alternative:
 - Suppliers – external and internal
 - Next higher assy's
 - Interchangeable parts



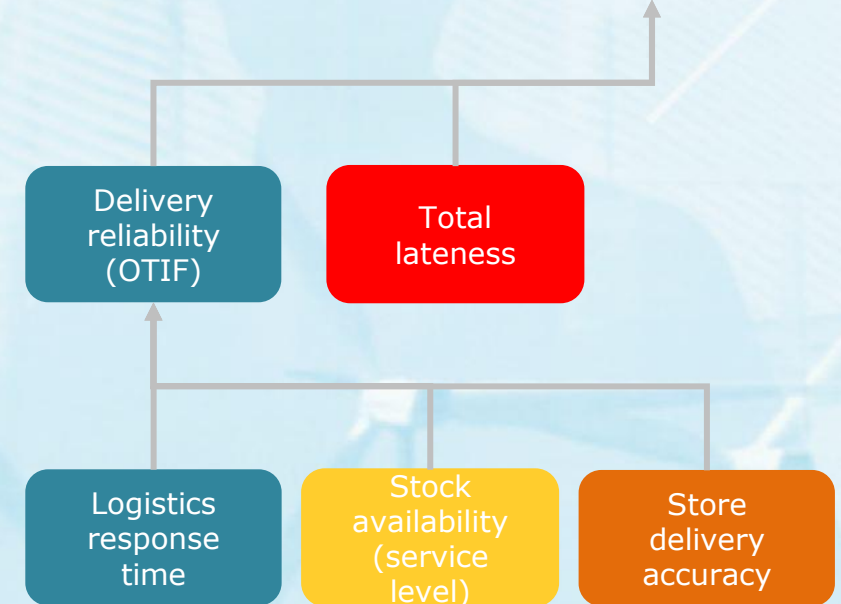
Focused spare parts inventory control

APM

Mean Time Between
Maintenance Actions

$$\text{Operational Availability} = \frac{\text{Mean Time Between Maintenance Actions}}{\text{Mean Time Between Maintenance Actions} + \text{Mean Time To Repair} + \text{Mean Logistics Delay Time}}$$

- Add parts to maintenance tasks – ensure timely reservations
- Close the warehouse during regular working hours
- Improve stock availability



Focused spare parts inventory control

APM

- Improve stock availability



Unit price	High	<ul style="list-style-type: none"> ▪ Enhance demand predictability ▪ Reduce variation in supply lead times ▪ Medium/high stock availability <p>LEAN</p>	<ul style="list-style-type: none"> ▪ Adequate modeling ▪ Try to scale up ▪ Apply risk management ▪ Low stock availability except for critical parts <p>JUST IN CASE</p>
	Low	<ul style="list-style-type: none"> ▪ Management by exception ▪ Fully automated process ▪ Very high stock availability <p>WHOLESALE</p>	<ul style="list-style-type: none"> ▪ Accept high safety stock ▪ Speed up phase outs ▪ High stock availability <p>WHOLESALE (CLEAN)</p>
		High	Low
		Demand frequency	

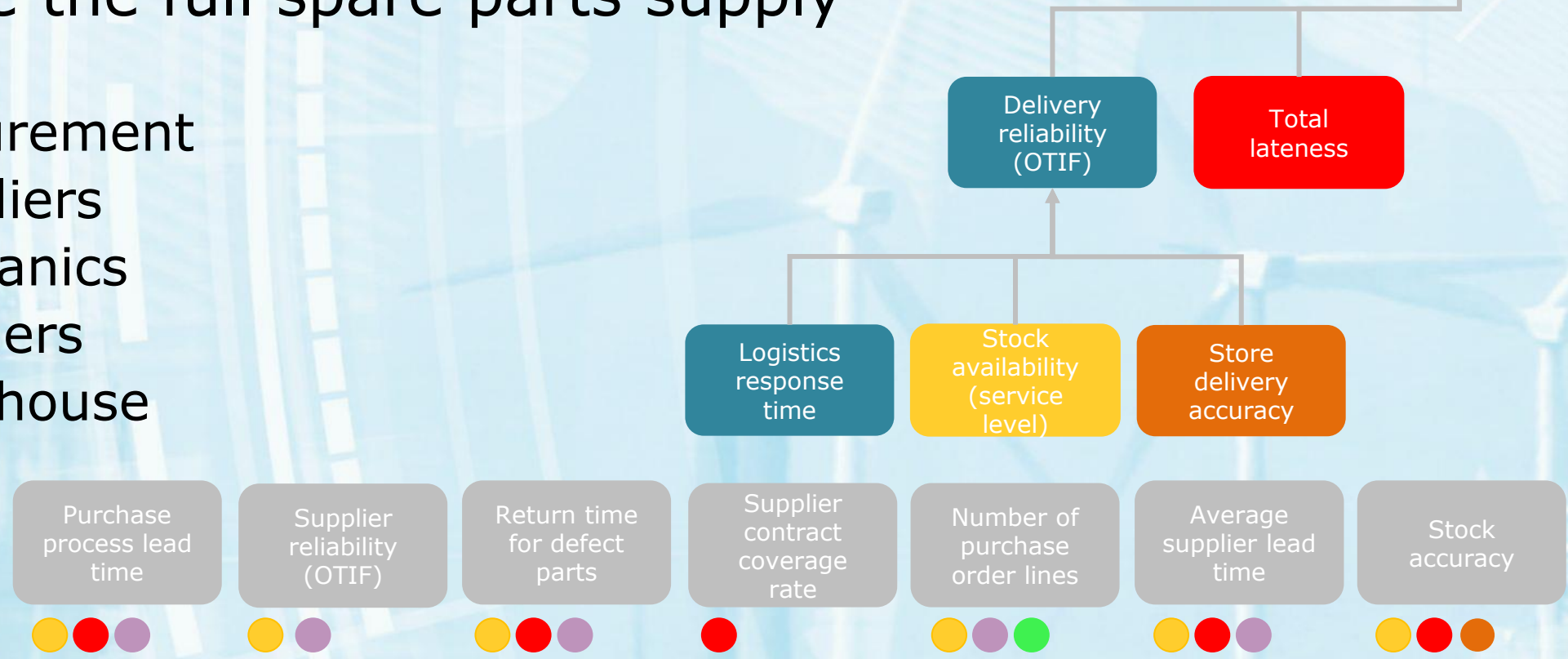
Focused spare parts inventory control

APM

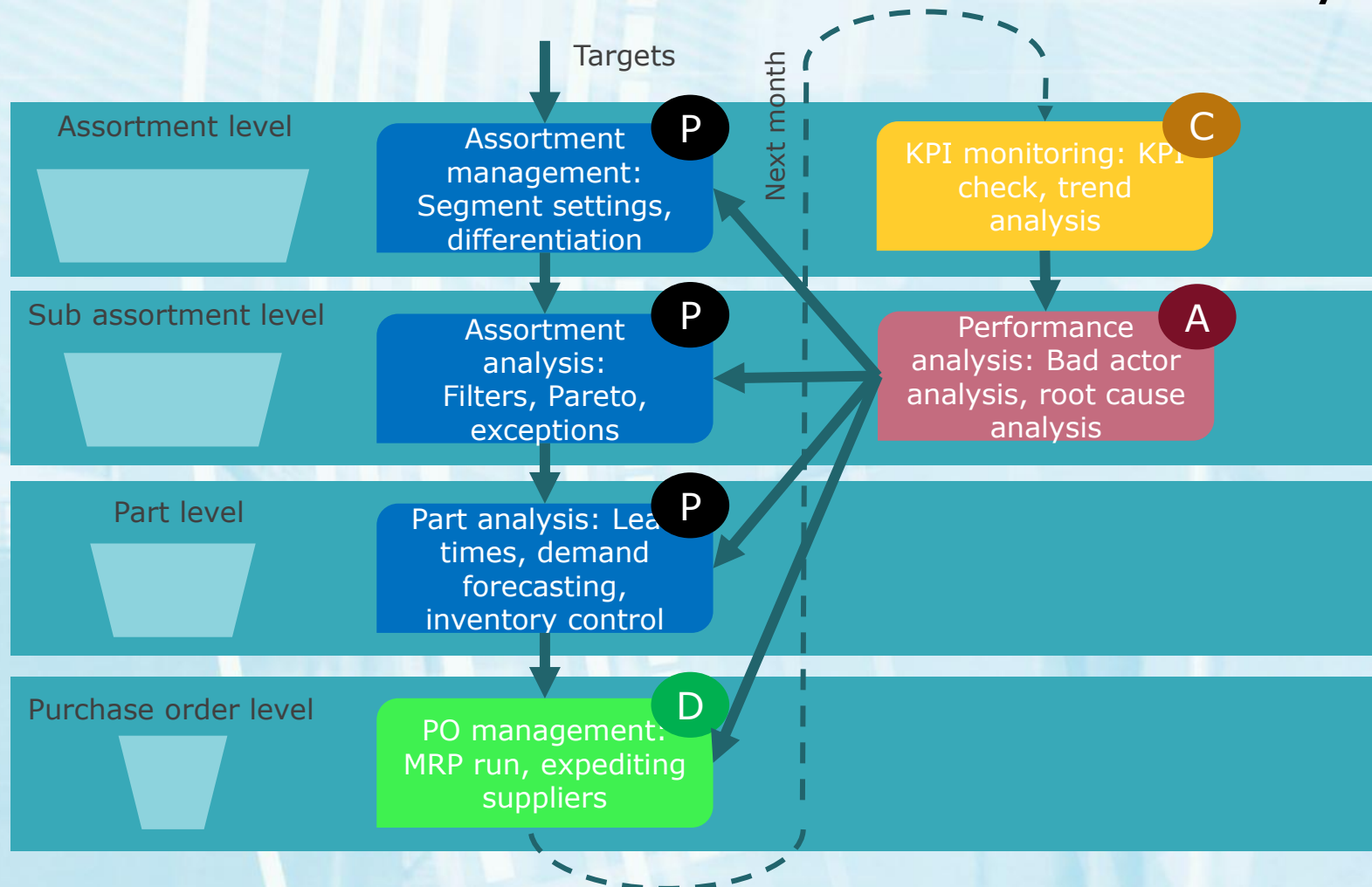
Mean Time Between Maintenance Actions

$$\text{Operational Availability} = \frac{1}{\text{Mean Time Between Maintenance Actions} + \text{Mean Time To Repair} + \text{Mean Logistics Delay Time}}$$

- Manage the full spare parts supply chain
 - Procurement
 - Suppliers
 - Mechanics
 - Planners
 - Warehouse



- Continuous Plan – Do – Check – Act cycle



LANZA <
ADVANCED MADE SIMPLE

Focused spare parts inventory control

APM

Q & A

Jürgen Donders
Gordian Logistic Experts

j.donders@gordian.nl

+31 6 4603 5340

Gordian

Logistic Experts

