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Manufacturing

Execution

System

Why MES ?

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- Limited control and traceabilty of alternative workflows & materials (product updates, repair scenarios)
- Limited control and traceability of transitions between engineering changes (simultaneous production of similar products)
- Insufficient compatibility to SAP (logistics, workflows, BOM explosion)
- Relocation of production facilities is quite common but elaborate (heterogeneous shopfloor IT-environment)
- Partially obsolete software technologies on shopfloor level
- Dissolve system breaks within the traceability (Incoming material, production, shipment)
- No standard software interfaces and development environment (Tool connection, measurement and test programs)

Why MES Worldwide?

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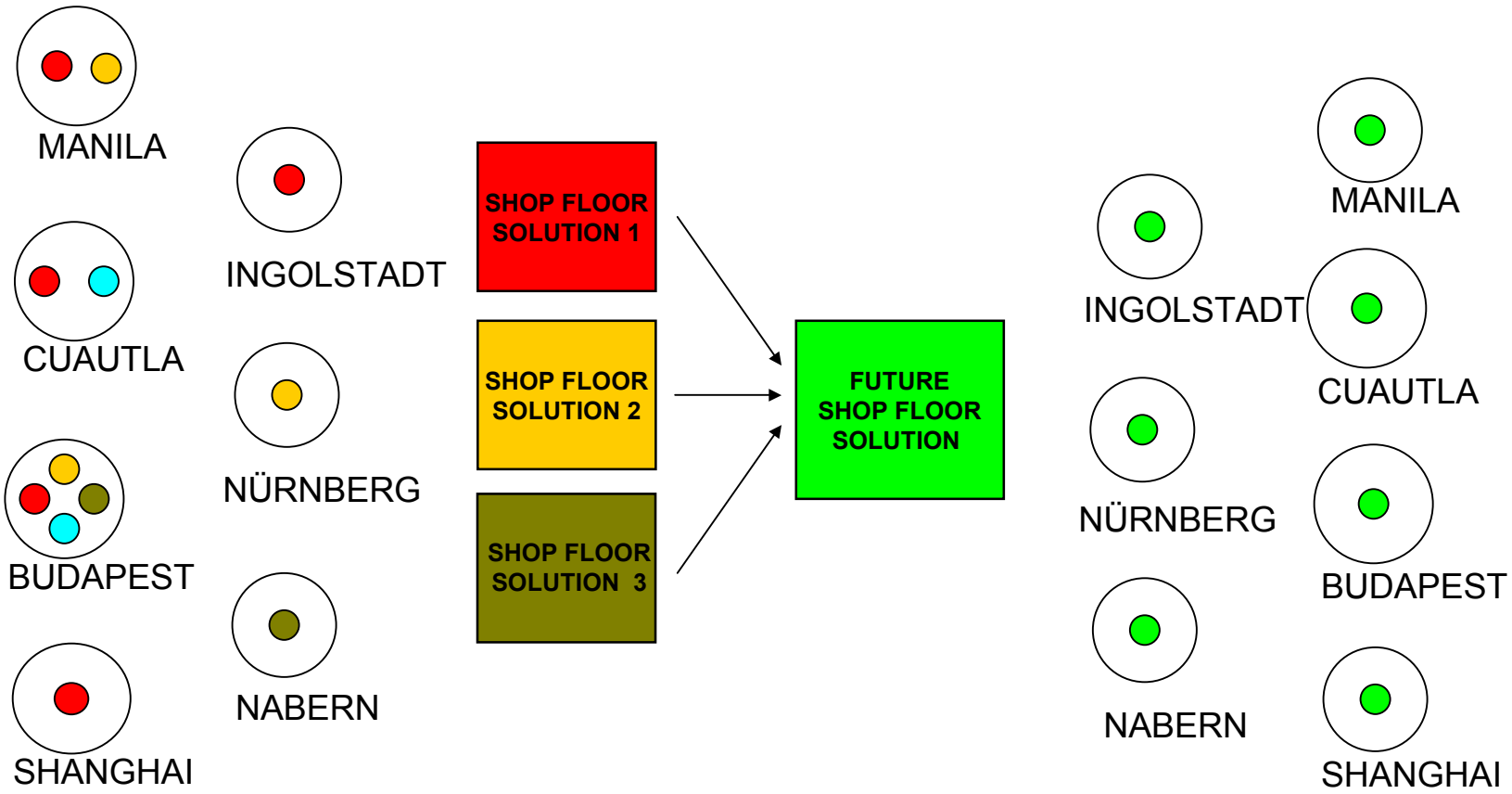

General Objectives

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- Getting rid of Data redundancies & inconsistencies between SAP & Shopfloor systems
- Accurate & fast determination of production quantities and stock inventories using „realtime“ backflush
- Avoidance of manual `recalculations`, Real cost per order must be available including rework
- Process/Manufacturer independent Online statistical reports, automated SPC, tracking of Corrective actions
- Closed loop traceability over the complete supply chain from suppliers to customers
- Worldwide support from every location, in terms of administration maintenance and troubleshooting

General Definition

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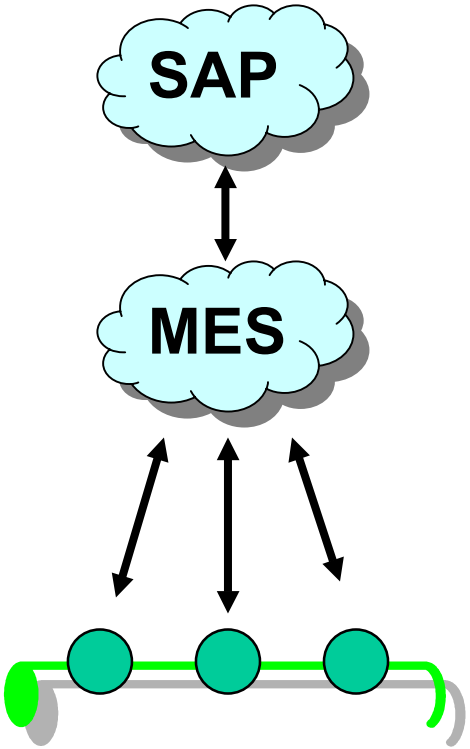
What is MES for Continental TEMIC ?

- An execution system for production driven from SAP
- Tool to operate the planning and workflows of SAP on shop floor level
- Provides uniformly reports and data structure in all production plants



and what is MES not at all?

- No engineering tool in order to plan
- Not a program to manage any master data

Main data for production just from SAP!

System Architecture

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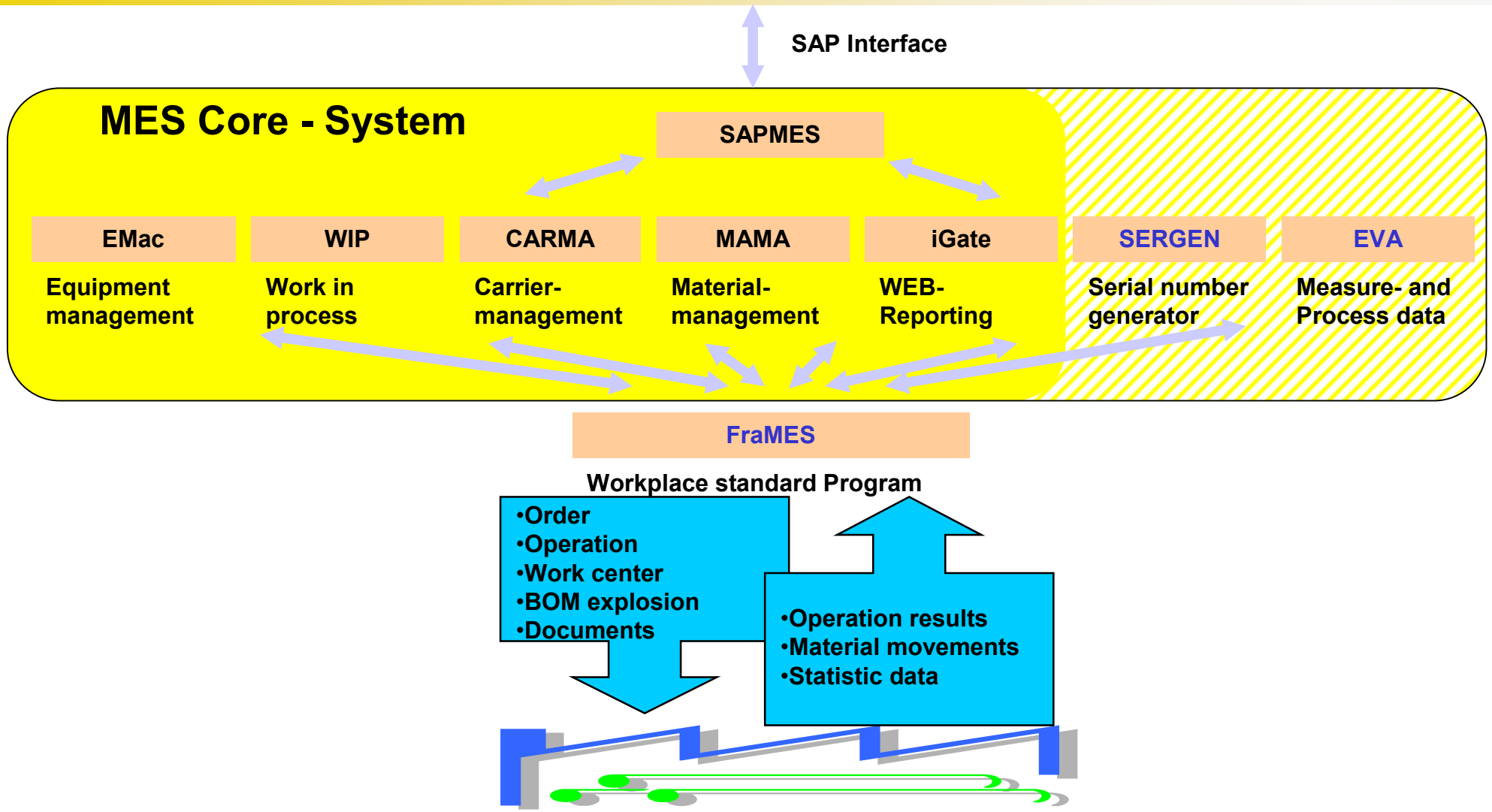

Dataflow SAP <-> MES

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Download

Material master data

Workplace data

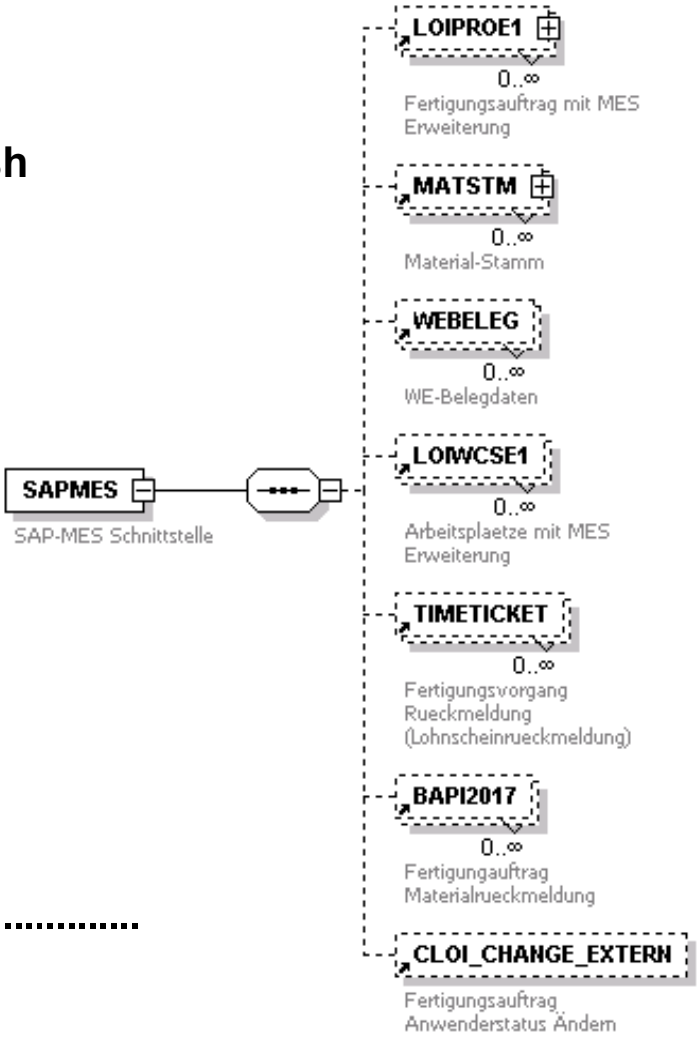
Goods-receipt – information orders

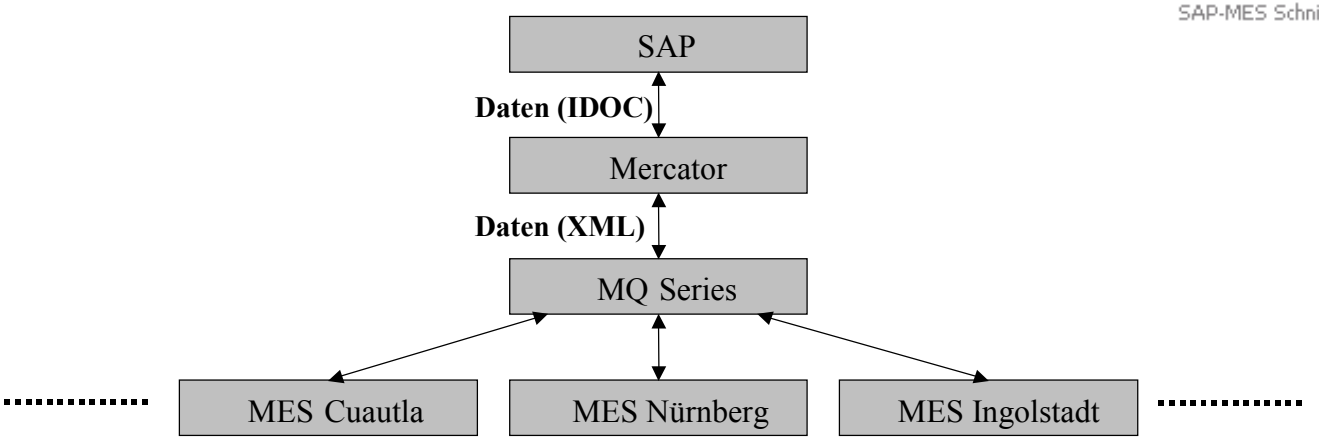
Upload

order oriented back flush

Material movements

Handling Units





How traceability works 1

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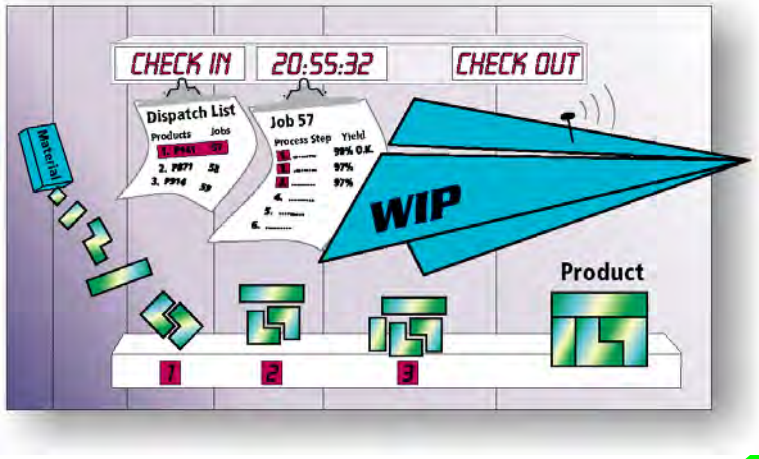

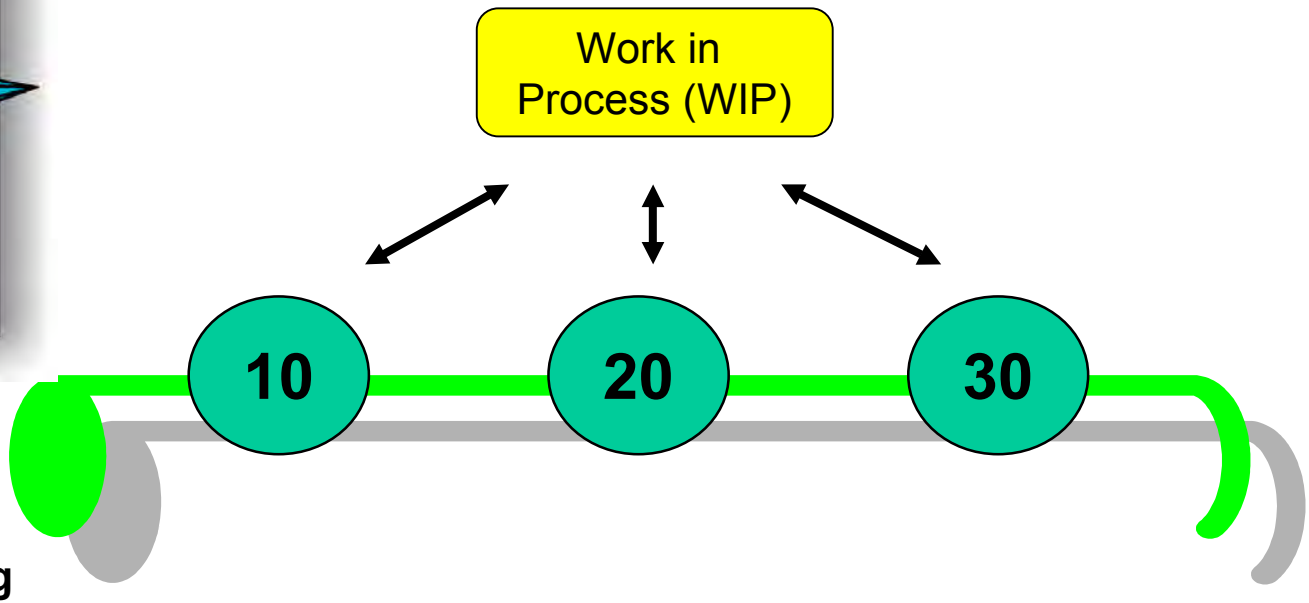

- Material tracking & tracing
- Lot and serial number tracking
- Monitoring of throughput, yield and failures
- Failure classification
- Validation of used materials
- Data exchange with external ERP system

How traceability works 2

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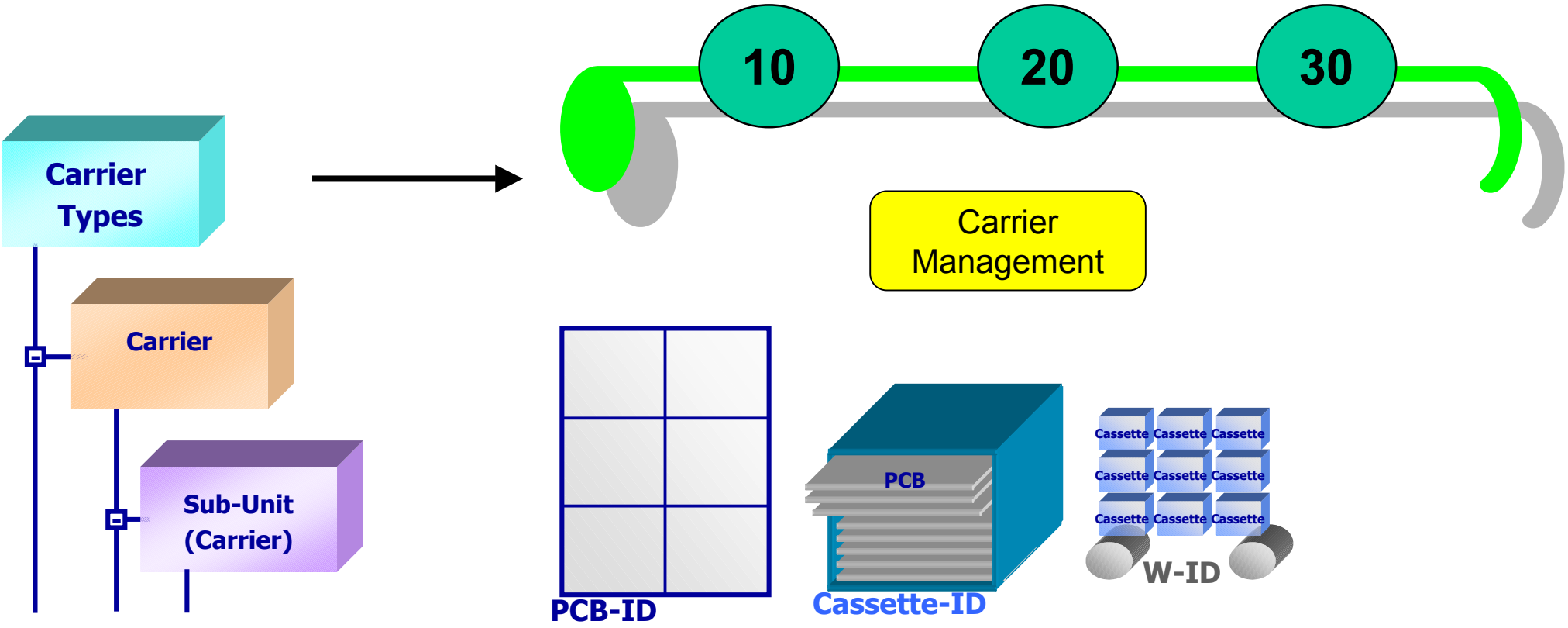
WIP module CarMa

- multilevel hierarchies
- tracking of all carrier movements
- free grouping of level depths for sub-units (carrier)



How traceability works 3

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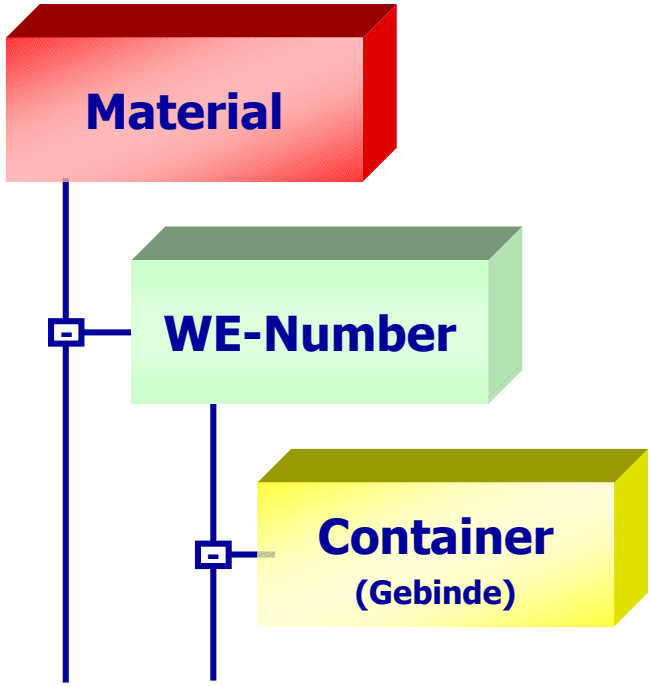
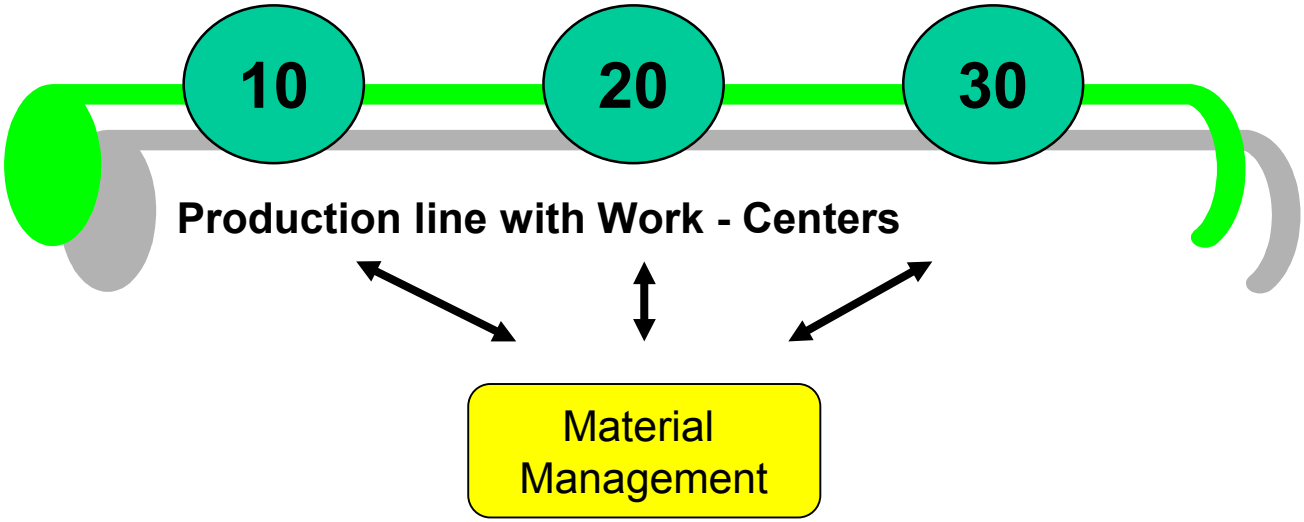
WIP module MaMa





- Documentation of all material movements
- Reservation and lock mechanism

How traceability works 4

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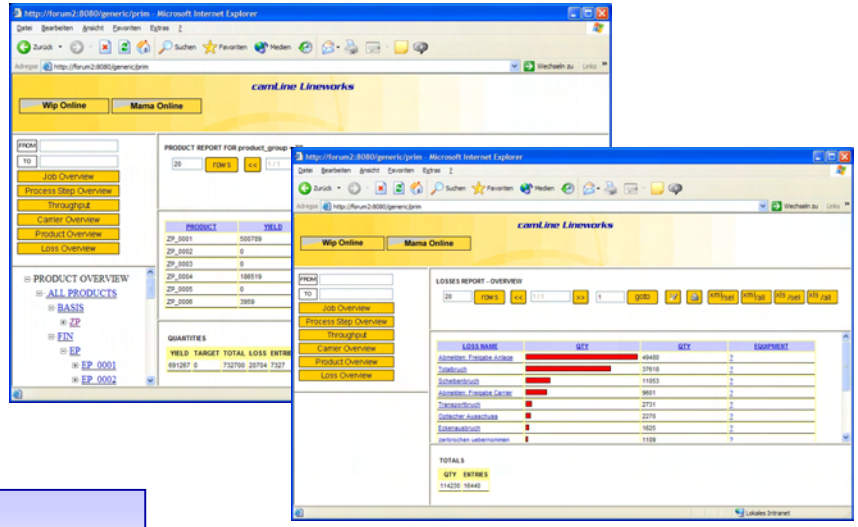
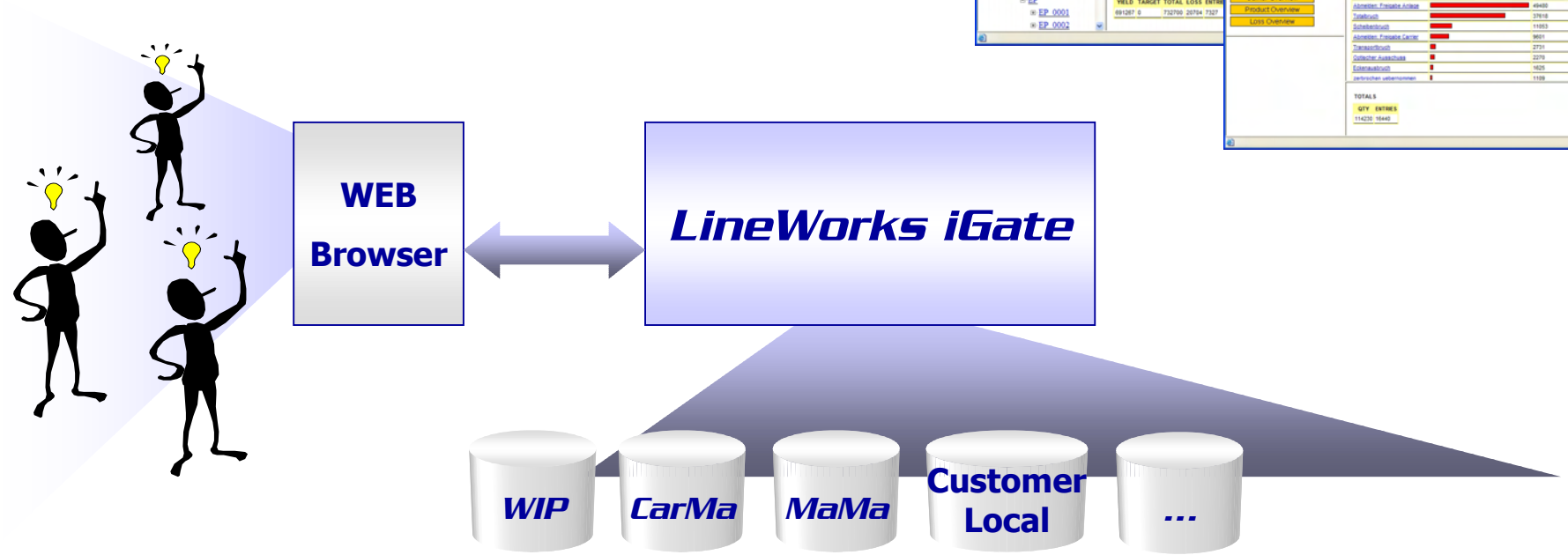
WIP module iGate

- MES Reporting
- MES Monitoring





The level of traceability

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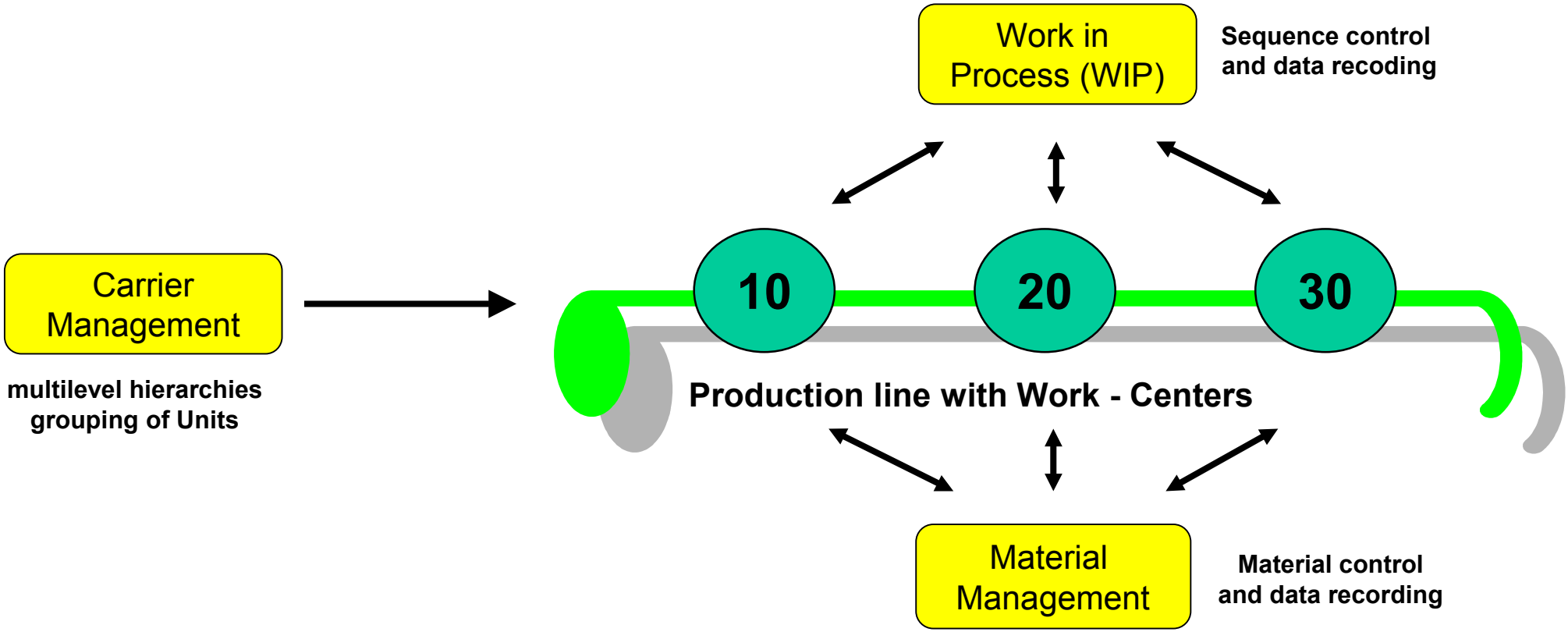

Directives / Organisation

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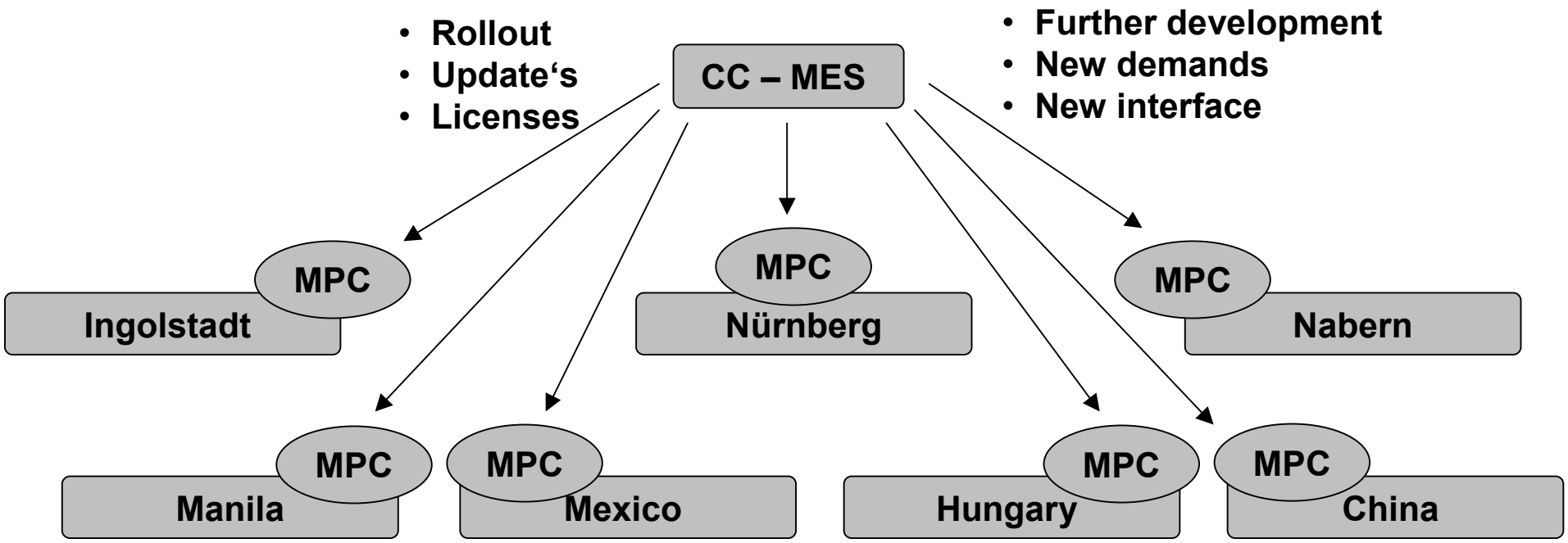
Central Coordination and independent Instance for :



MPC = MES – **P**rocess – **C**oordinator / Local Contact person in Operations department with corresponding Know-how in engineering, SAP and MES / Interface to IT

Benefits for Continental Temic

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1. Unified MES solution world wide
   - Interfaces to SAP and work centers
   - Material management
   - Same database – structures on each plant
   - Central supported functions and procedures
   - Standardisation in sequence control
   - Same Tracability everywhere
2. Standard reports in every location
3. Cost reduction by Standardisation

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Thank you for your attention

More information at booth A5.168