FIXING REFERENCE ARCHITECTURE

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* Canon Production Printing (CPP)

+ ESI

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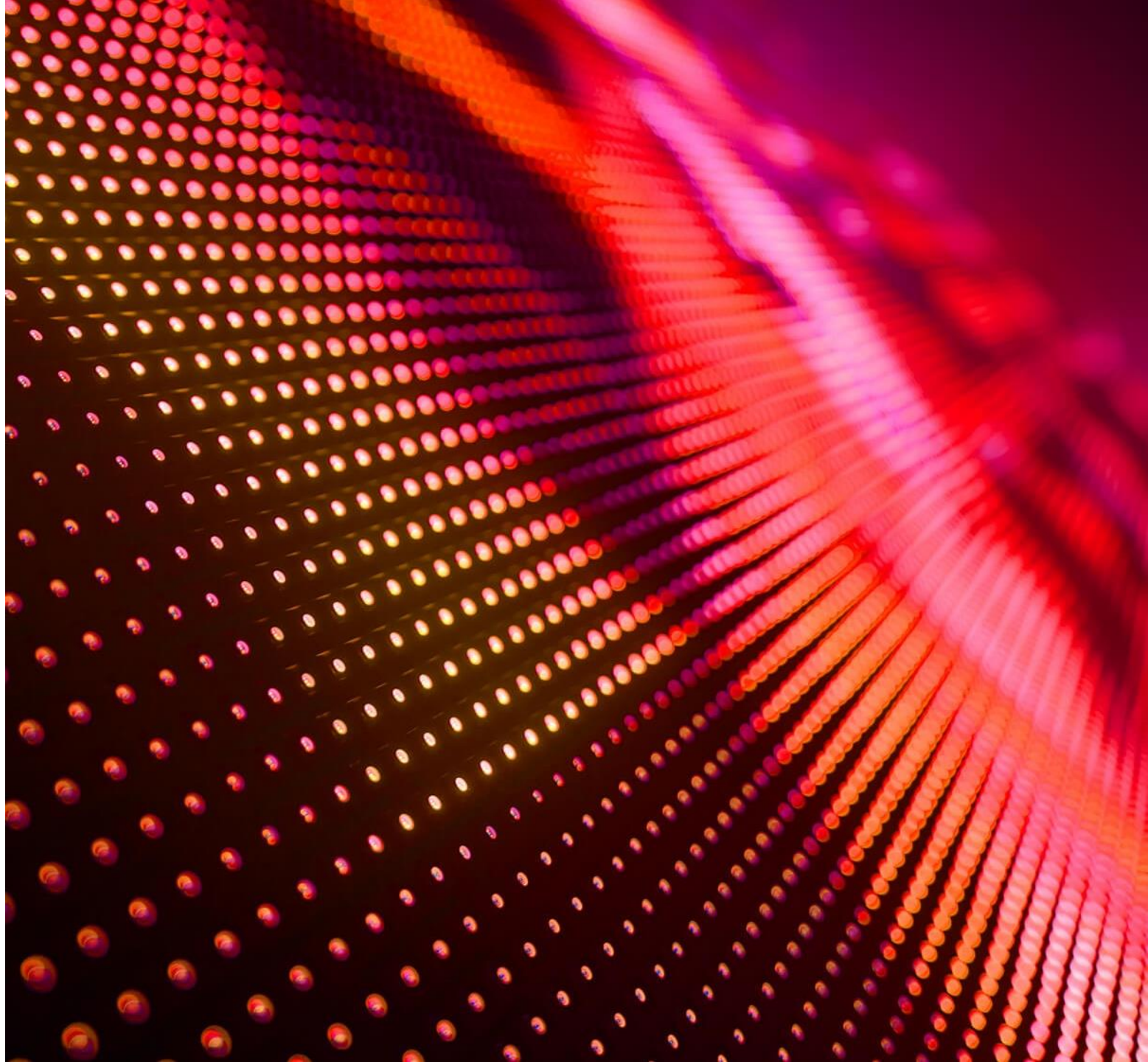


CANON'S PRODUCTS & VISION

Printing

Commercial printers

Office printers

Home printers

Imaging

Network cameras

Cameras

Medical

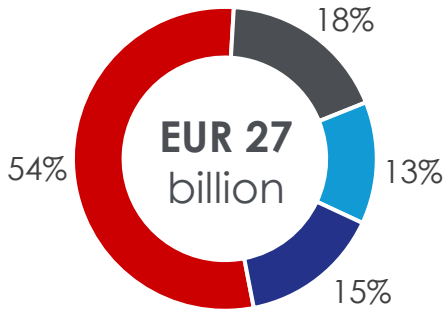
Medical equipment

Industrial and Others

OLED equipment

Lithography equipment

Revenue in 2021



CANON'S PRODUCTS & VISION

Four Growth Businesses

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Revenue in 2021

A COMPLETE PRODUCT PORTFOLIO

Digital presses

Up to 4000 A4/min

Large Format printers

Up to 3.2m wide

Information ➔ **Graphics on paper** ➔ **… on any flexible media** ➔ **… on rigids**

Print application examples

Technical drawings

Books

Maps / posters

Premium direct mail

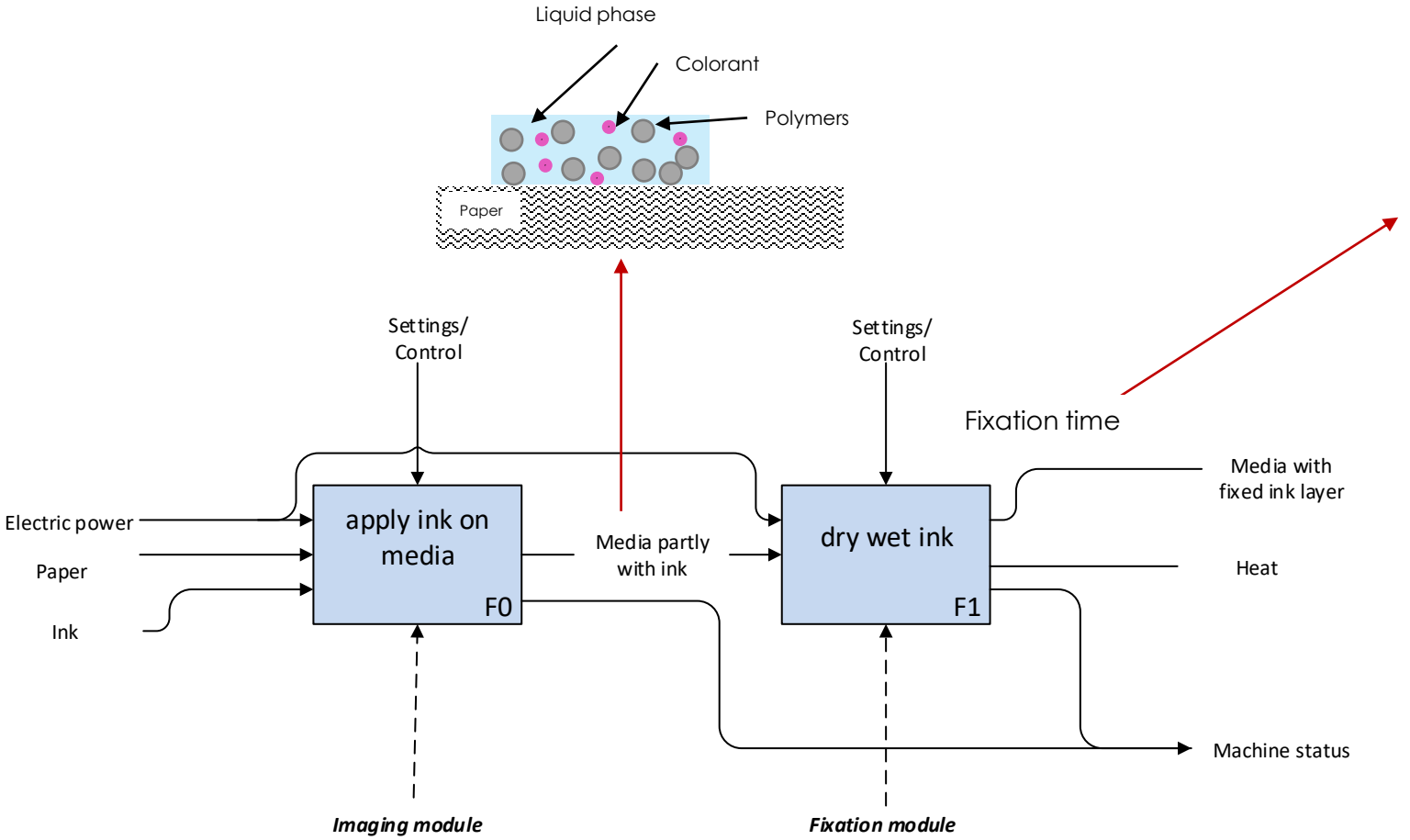
Signage

Labels

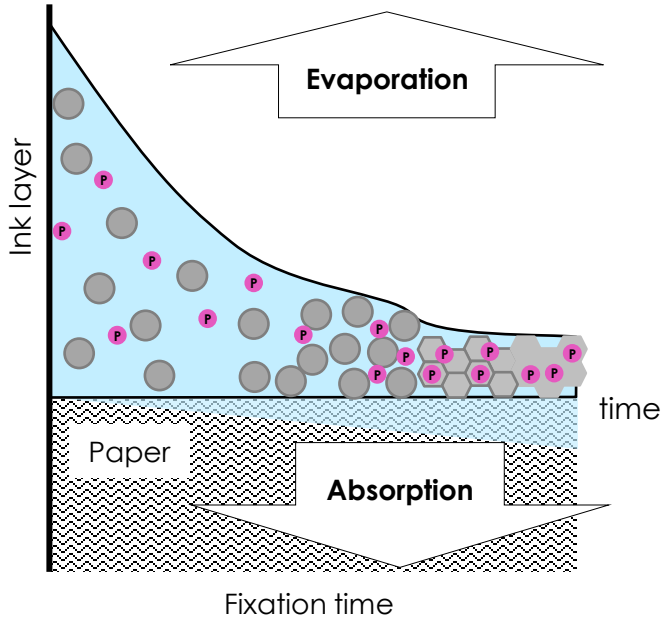
Packaging

HOW DOES PRINTING WORK?

Printing is simple…



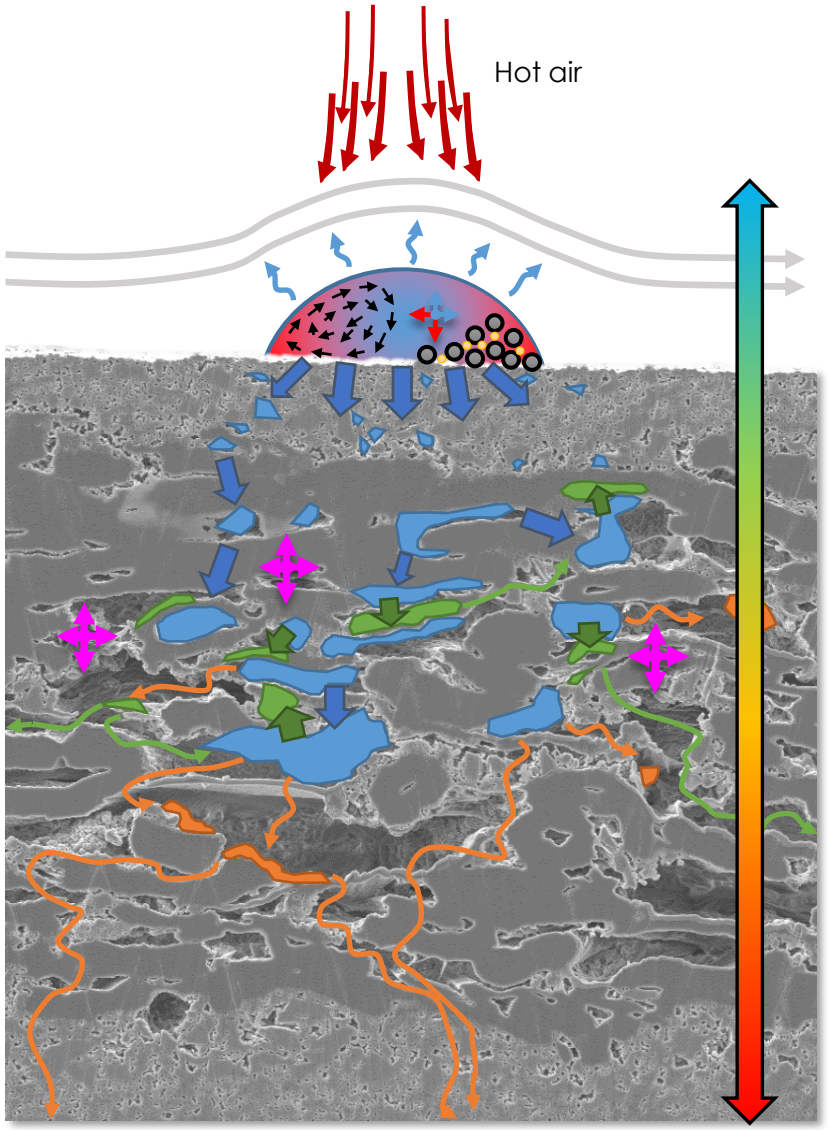
- Evaporation
  - Hot Air Impingement
- Absorption



- Oxidative drying
- Radiation drying
  - UV
  - IR / NIR
  - MW
  - RF

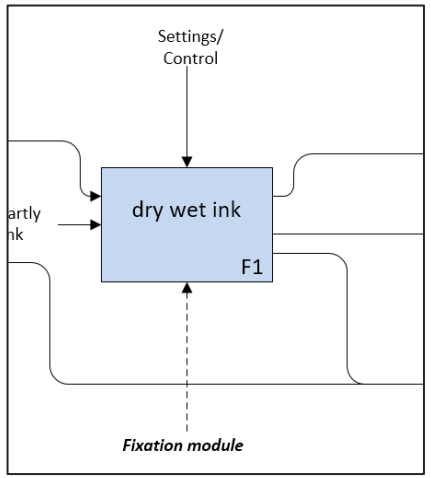
DRYING THE INK

… or maybe not?



DRYING THE INK

Technology implementations

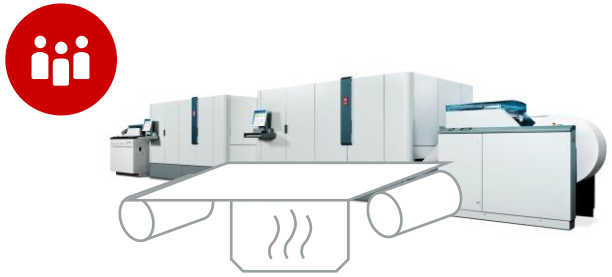


Infrared IR / NIR

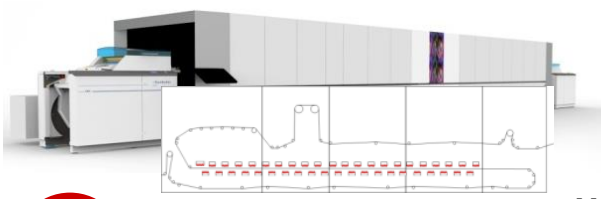
Contact drying

Hot air drying

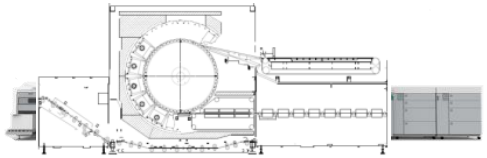
… & combinations

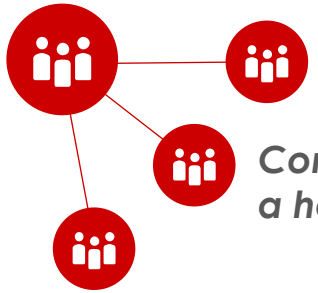


Contact drying with hot saddle



Hot air drying





Contact drying on a hot drum

Different fixation technologies and realizations

- Specifically designed for the needs of the individual product or market segment

… several multi-disciplinary development teams

- All identifying with their work
- High development effort
- Low number of same parts

Platform approach

- Framework set by Reference Architecture
- Cross site & cross product

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OUR WAY TO THE PLATFORM

so far …

Challenges

- Technical: Finding scalable solutions satisfying the product needs
- Organizational: From several project teams at different sites devoted to "their" product
  to
  cross site teams committed to a platform and the products based upon it

Approach

- Implement new organizational structure
- Use structured methods to get to a common language, understanding and trust
  - Functional views, independent from actual realizations
  - Create System views, still independent from concrete realizations
  - Capture reasoning for decisions to avoid misunderstandings

Reference Architecture

- Establish reference architecture as framework for the individual product architectures
  - Guiding and constraining product architectures to ensure high synergy in
    - R&D
    - Manufacturing
    - Service
    - Use
  - Premise: Deviations and additions must add value
- Based on prior *knowledge* and (future) market needs of all products

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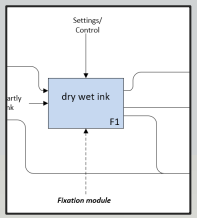
EXAMPLES

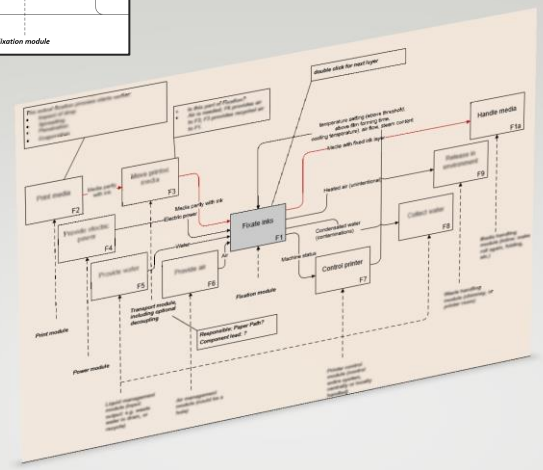
How to bring architecture and people together

Pure functionality

- IDEF0 (non-formal)
- Architect & Component Lead

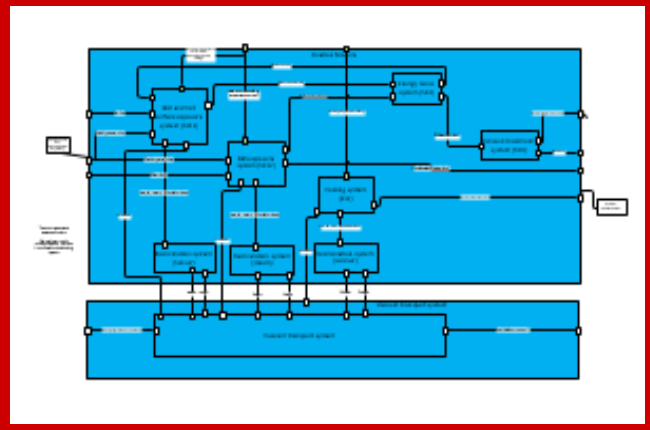


Decompose



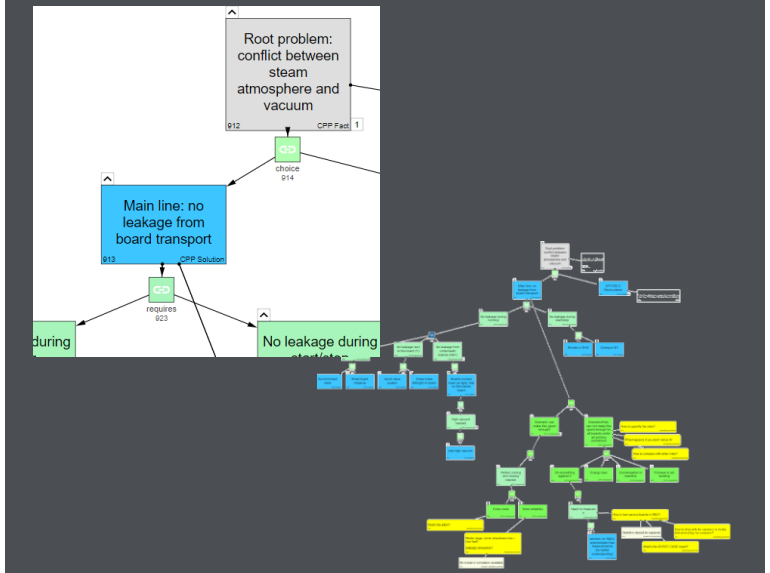
System decomposition

- Get clarity about interfaces and their owners



Capturing reasoning

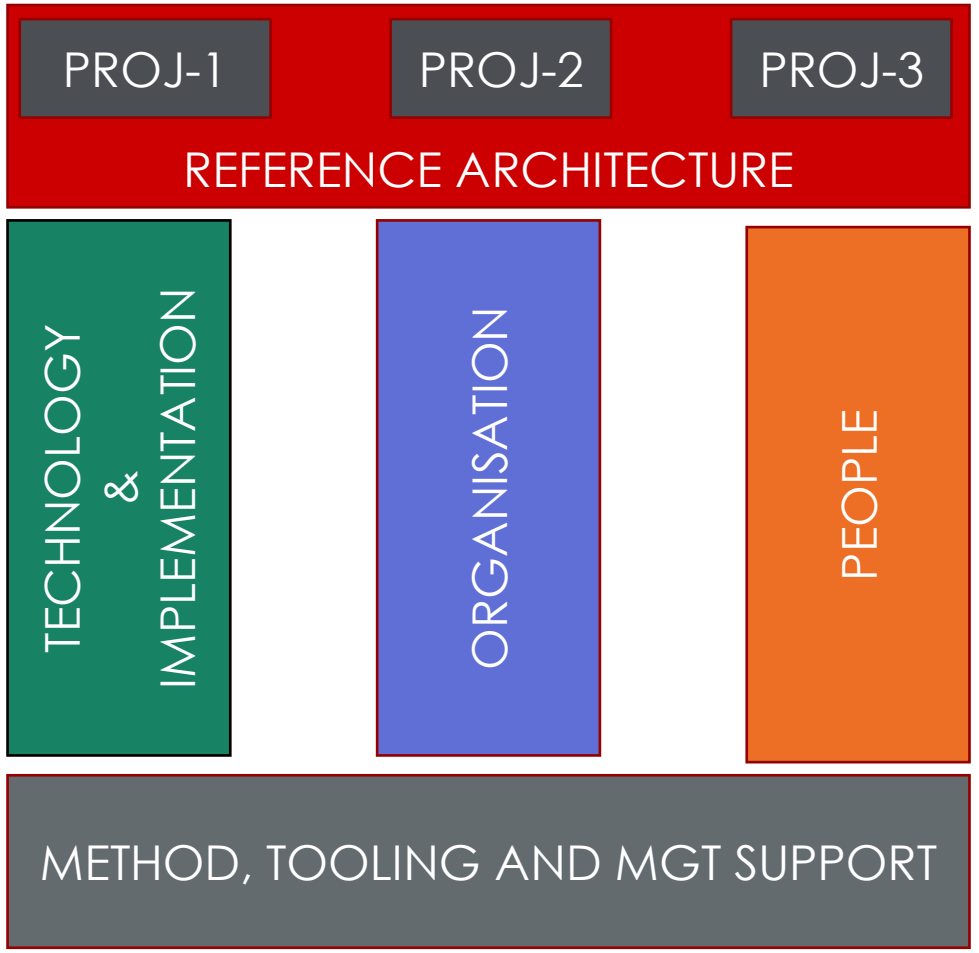
- Reasoning Tree
  - Capturing far-reaching decisions and reasoning in the team



LEARNINGS

..so far

- As in many industries, we decided to use product platforms
- Technical solutions fitting the need of multiple project needs compromises (expected)
- Consequences of the necessary adaption in the organizational structure as a challenge
  - Teams split cross-sites; members with different company cultural history and way of working
  - At the same time great opportunities for creativity
- Structured approaches, e.g. Functional decompositions ,… help to bring people together (face-to-face, online, hybrid)



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