Factory 4.0 approach @ tk Norte

November 2017 | Jesús Fernandez, PhD
Our understanding of “SMART factory”

**Smart PROCESS**

**MANUFACTURING**
- Rapid prototyping / tooling
- Digital mock-up
  - Layouts with DELMIA QUEST
  - Assembly patterns
- 3D Laser Allignment

**INFORMATION FLOW**
- WIP monitoring
- Material lagging in assembly lines
- Quality issues recording
- Machinery breakdown assistance
- RFID 4 Logistics

**Smart PRODUCT**

- tk VIEW
- Big Machine
- Elevators: Hololenses & MAX
Digital Process: Manufacturing with digital mock-ups
Digital process: Information flow – the starting point
In order to ease information recording and data collection, we also improved and upgraded SGT Terminals as a part of the project.
tkN 4.0 – Working
Information analytics and intelligence: Pentaho B.I.

“Open Source” solution for online dashboard and K.P.I.
tkN 4.0 – Short term

Business processes to be implemented short term

Implementation and connection of some "quick win" processes currently "paper supported". There are still lots of unconnected processes, so we should have a long term vision (e.g. Quality Management, Planning).

Material flow tracking
tkN 4.0 – Mid/Long Term Vision: Development Framework

**01**
To avoid "black boxes" whenever we need to implement a new process. IT solution uniformity.

**02**
Freedom to choose the best technological partner depending on project requirements.

**03**
Full solution ownership, so we can manage evolution and improvement.

**Definition:**
Scheme and pattern for application development and deployment.
Thanks for your attention.