The Future of Content Delivery

Intelligent Information
For Smart Systems
A Study

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Introduction

- Great advances in content creation (techniques and tools)
  - Huge amounts of information
- Content delivery overlooked
  - A new focus of innovation

Motivation

- Industry 4.0, IoT, cyber-physical systems
  - “NG context help” for HW
- Traditional manuals
  a reader must browse to find what he needs,
  flow of information that is overwhelming
- Content delivery system
  evaluate reader’s context and provide just the topic the reader needs

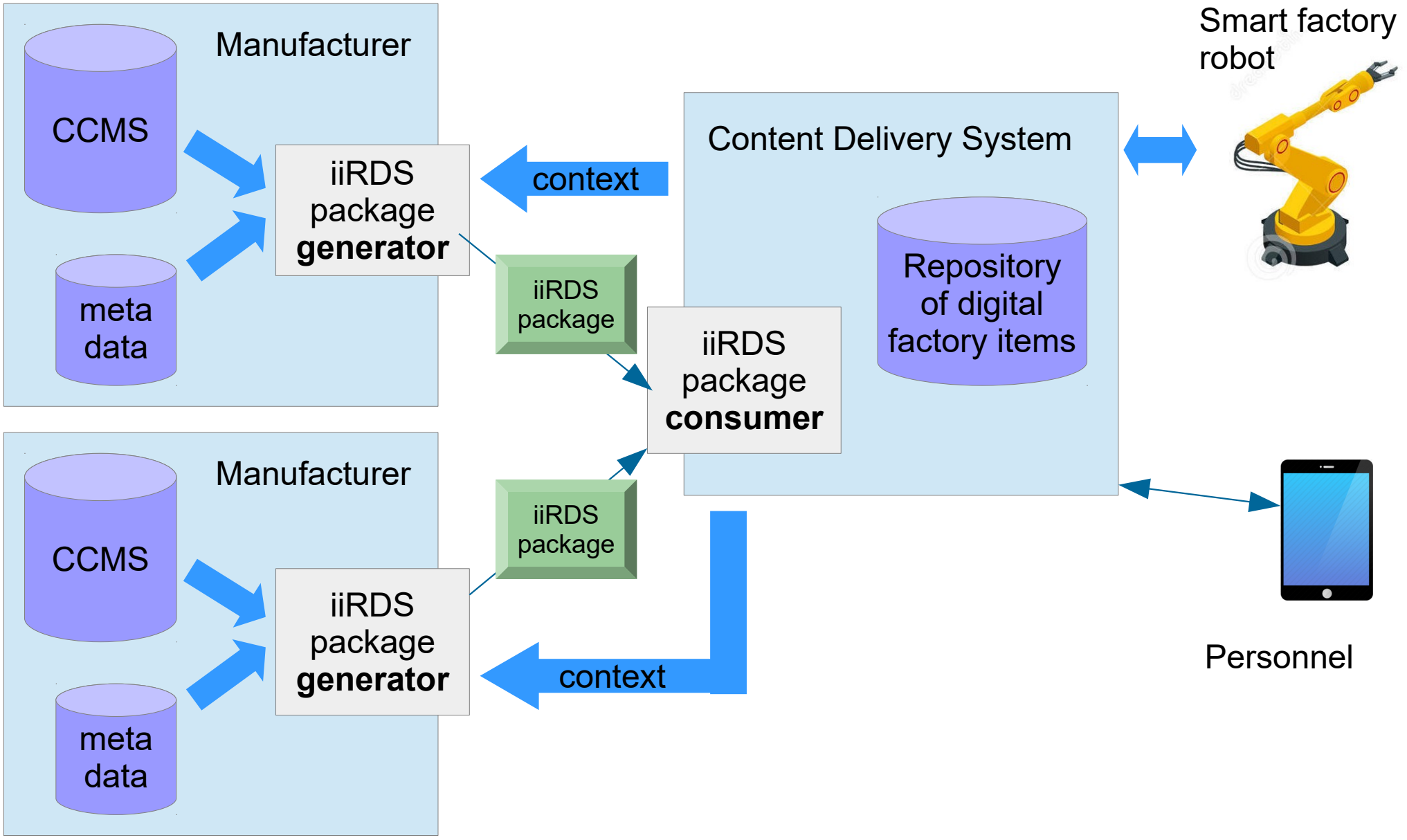
Intelligent delivery

- The right information, for the right person,
  at the right place, at the right time,
  on the most suitable device
- Dynamic
- Context-driven
- Composed and/or linked from many sources
- Limited flow of information
  (not just concise, but narrowed down)

Intelligent content

- Modular
- Structured
- Reusable
- Format-free (independent of presentation)
- Semantically rich (metadata)
  - Classification: industry, audience role, qualification, subject area, product life-cycle phase, use case, event (e.g. error)...

Architecture



Intelligent Information Request and Delivery Standard

- https://iirds.tekom.de
- Version 1.0 (April 2018)
- Cross-industry, comes from HW docs
- Specifies format for content exchange

  (Guarantees cross-vendor interoperability)
- Not how to generate it nor interpret it
- Not how to make a request nor transport

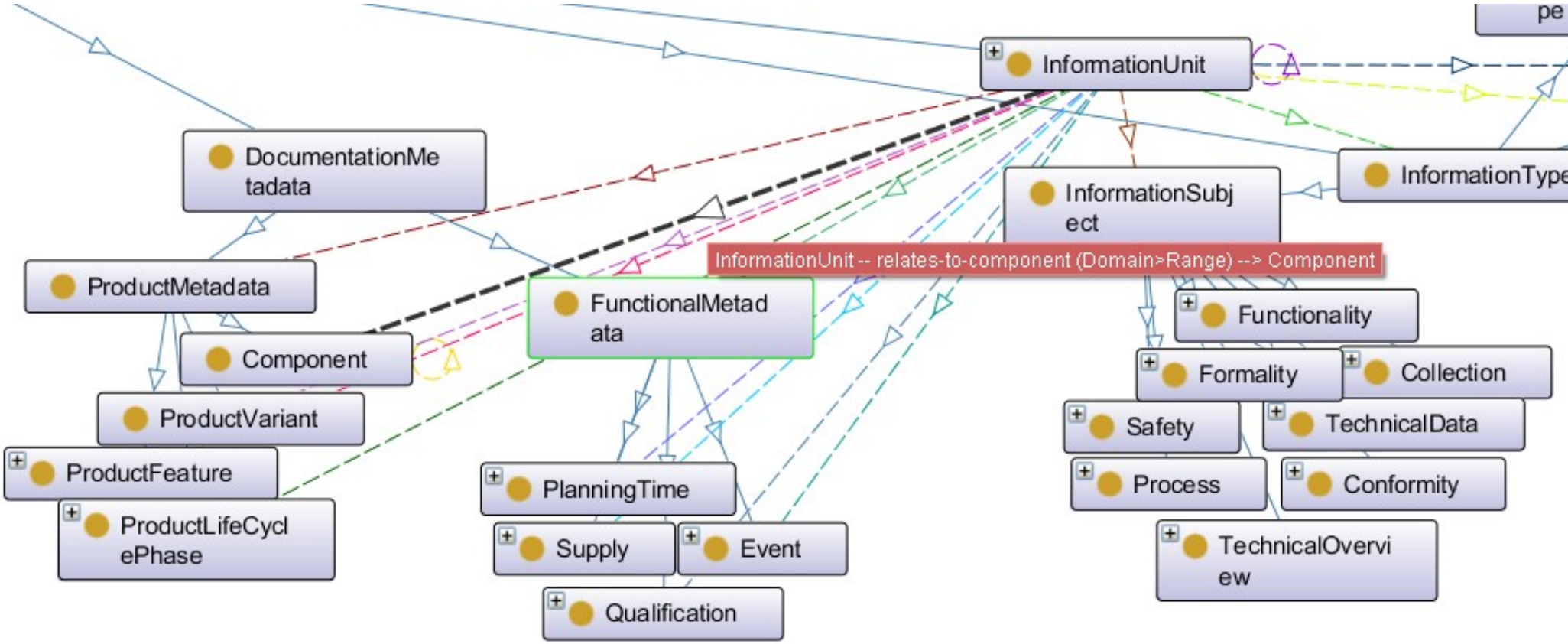
iiRDS – Sets metadata format

- Separately from content
- RDF Schema (ontology)
- Can be extended (domain, proprietary)
- Can be mapped to external ontologies (e.g. product model)

iiRDS – Unifies terminology

- Tech. doc. taxonomy – Information types
  - document types (InstallationInstructions...), topic types (Concept, Reference, Task, ...), subject types (Functionality, Safety...)
  - Information units – document, topic, fragment...
- Documentation metadata
  - Functional (Event, Qualification, ...)
  - Product (Variant, Component, Feature, LC phase)
- ...and many more + relations

iiRDS – Ontology graph in Protégé



iiRDS – Sets packaging format

- MIME type: `application/iirds+zip`
- Package is ZIP archive which contains:
  - Mimetype file
  - META-INF directory with RDFS metadata
  - Arbitrary directory structure with content

iiRDS – Sets content formats

- Allows for loose granularity of content
- Unrestricted
  - any content format

    (HTML, PDF, pictures, video, audio, SW patch…)
- iiRDS/A
  - a restricted set of formats
  - self-contained packages
    (URIs point only to local resources inside the package)

Prototype implementations

- http://ids.c-rex.net/
  - commercial information delivery service, website provides samples
- fastclass – tool for automated classification
- DITA OT support ?
- tcworld slides (PDF)

Ideas

- ~~Product life cycle support~~ ?
- Documentation process support
  - Maintenance of docs based on changes in code repository
  - If properly described with metadata
    (both docs and code)
    a supporting system could point the TW
    towards topics that need to be revised

Thank You

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