The Path to Interoperability

Neil McPhater

Marketing Manager - Special Projects,
AVEVA

The Path to Interoperability

PCA Forum 2008 & Members Meeting

22 October 2008

Kuala Lumpur

Where is “interoperability” hurting?

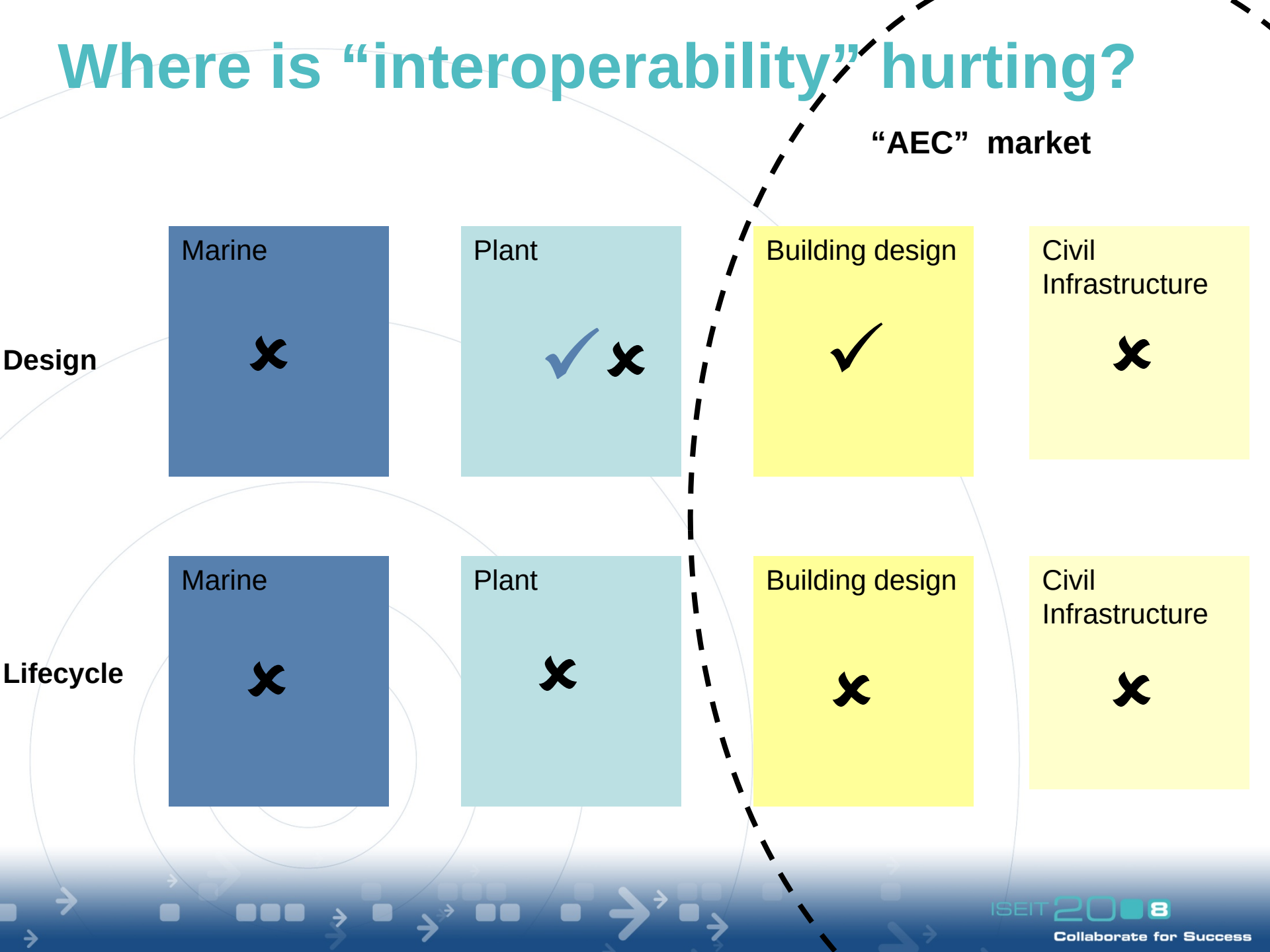
“Legacy data issues are unarguably the biggest problem facing the process industries”. Gartner Report

Where is “interoperability” hurting?

NIST estimates that ‘**inadequate interoperability** (CAD, engineering and software systems)’ in the ‘US capital facilities industry (commercial, institutional and industrial)’ **may cost $15.8 billion annually** with two thirds of these costs being borne by owner/operators. This relates to between 1% and 2% of the industry’s annual revenue.

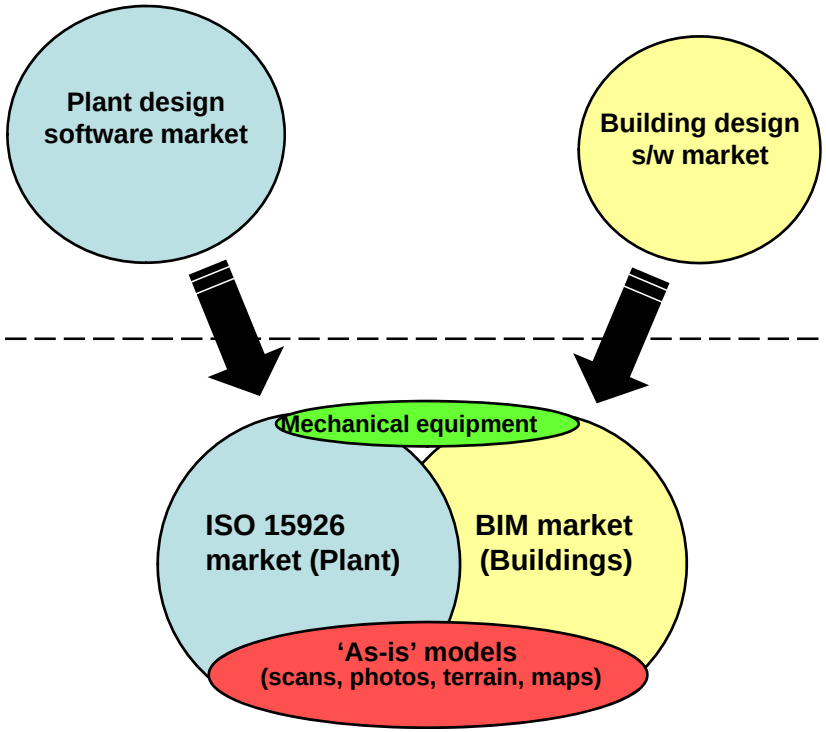
The McGraw Hill ENR Technology for Construction report on Interoperability (2007) estimates the cost to be twice as much as NIST.

Where is “interoperability” hurting?



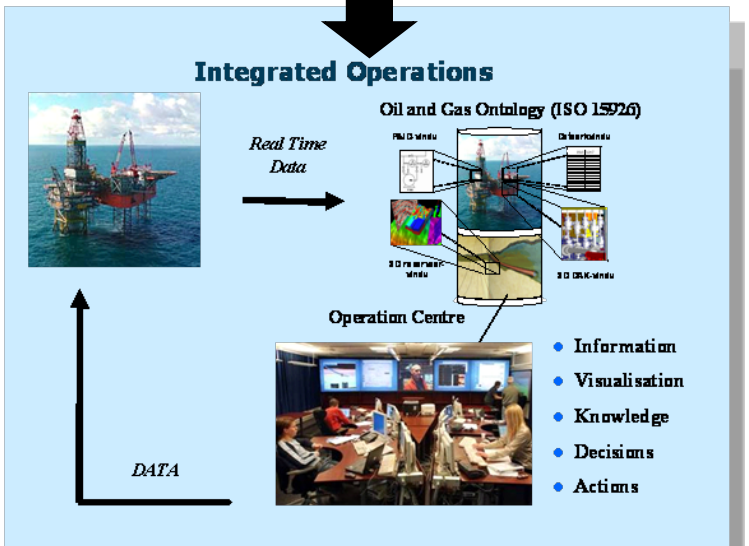
‘Digital Convergence’ and Standards

Time line



today

tomorrow

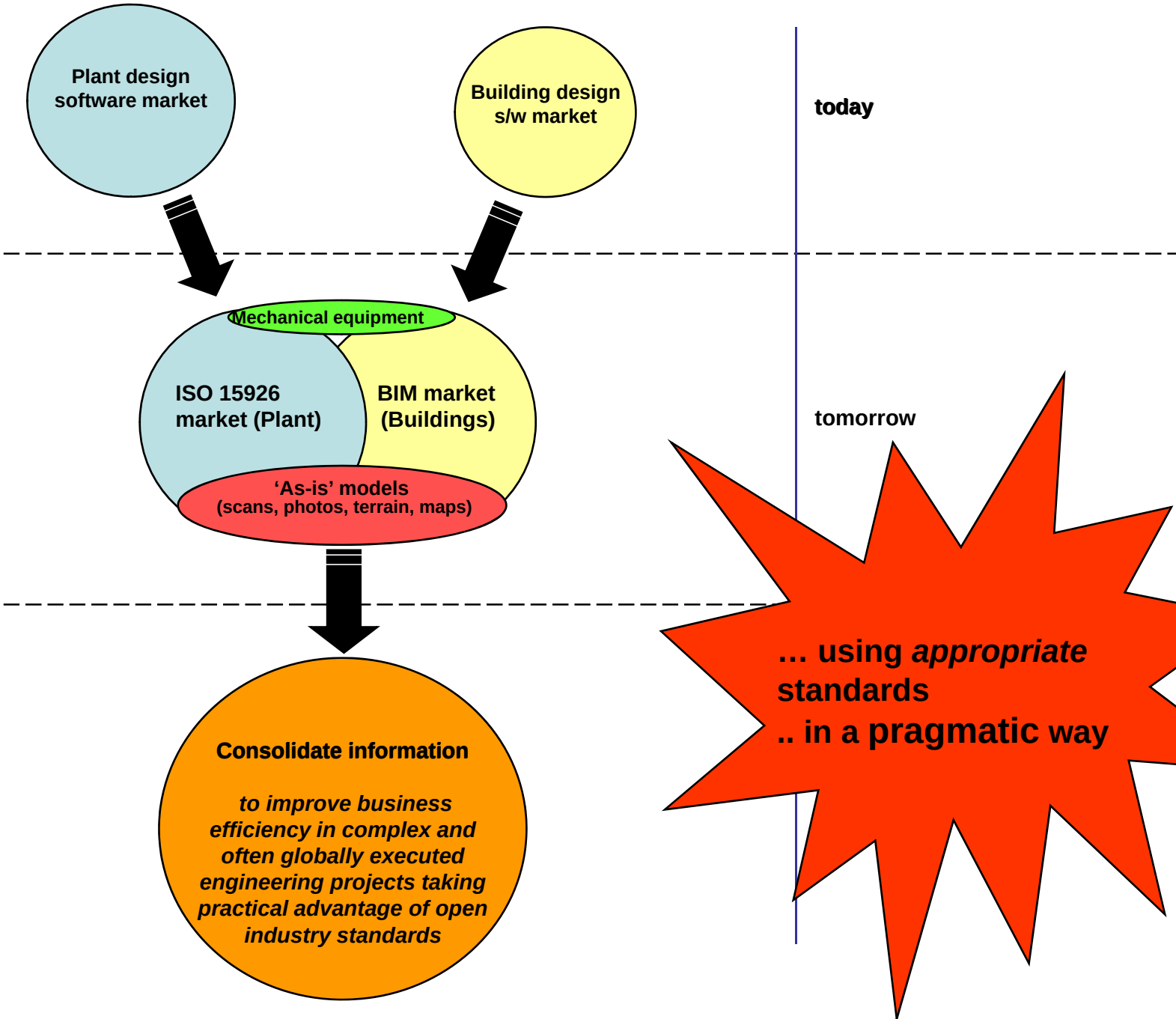


future

Increasing move to industry data standards, away from proprietary formats

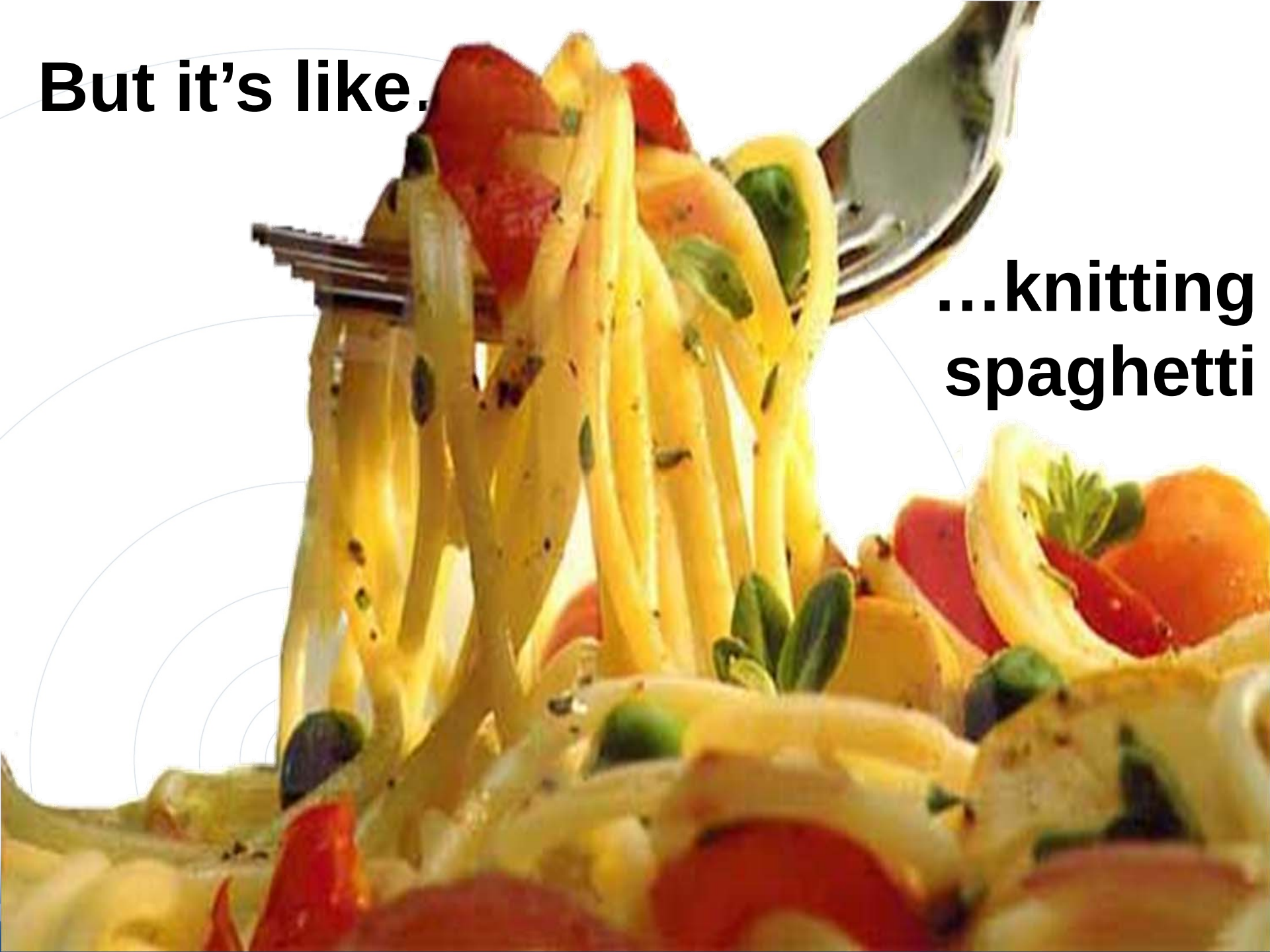
Increasing market for Data Management of engineering projects

‘Digital Convergence’ and Standards




appropriate
Standards

But it’s like.



…knitting spaghetti

How to un-knit spaghetti?

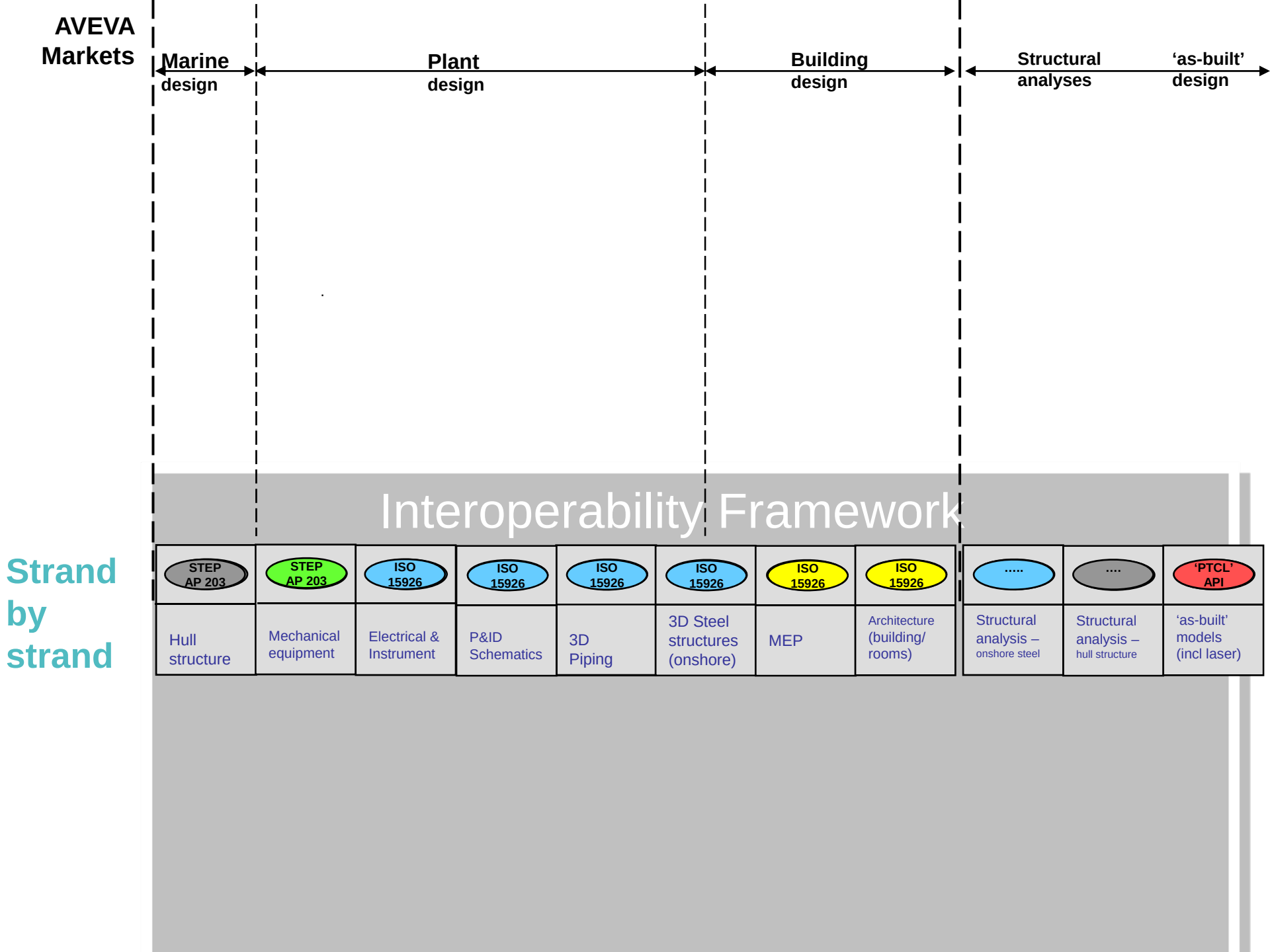
… using *appropriate* standards
.. in a pragmatic way

map to BIM (IFC) standard

Interoperability Framework

Strand by strand

STEP AP 203	STEP AP 203	ISO 15926	ISO 15926	ISO 15926	ISO 15926	ISO 15926	ISO 15926	…..	….	‘PTCL’ API
Hull structure	Mechanical equipment	Electrical & Instrument	P&ID Schematics	3D Piping	3D Steel structures (onshore)	MEP	Architecture (building/ rooms)	Structural analysis – onshore steel	Structural analysis – hull structure	‘as-built’ models (incl laser)


AVEVA Markets
Marine design
Plant design
Building design
Structural analyses
'as-built' design
Interoperability Framework
Strand by strand
STEP AP 203
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'PTCL' API
Hull structure
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3D Piping
3D Steel structures (onshore)
MEP
Architecture (building/ rooms)
Structural analysis – onshore steel
Structural analysis – hull structure
'as-built' models (incl laser)

AVEVA Markets

Marine design | **Plant design** | **Building design** | **Structural analyses** | **'as-built' design**

AVEVA strategic customers in Plant, Marine and Building design markets

1

2

Aplication integration partners
e.g. Noumenon

3

Standards body partners
e.g. PCA, FIATECH

Interoperability Framework

Strand by strand

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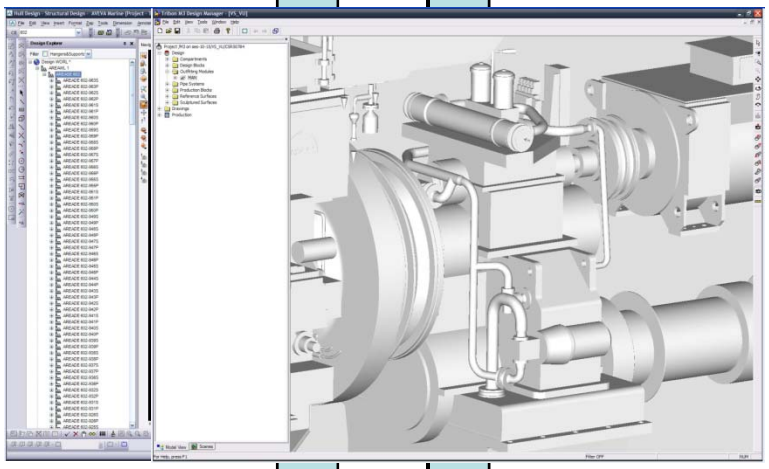
4

Brand new Interoperability capability

Brand new Interoperability capability



Interoperability Framework

Strand by strand

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AVEVA Interoperability solutions

Unrivalled achievements

...partnering with customers

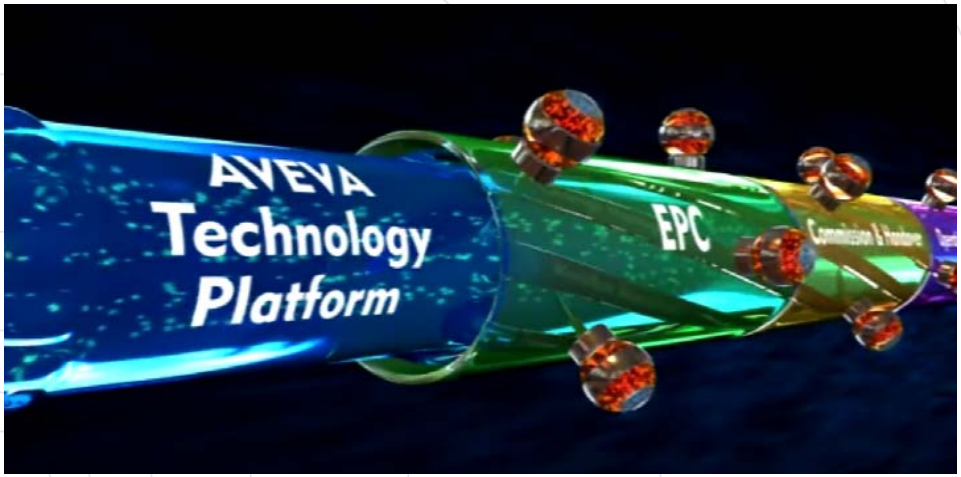
…to drive **benefits**

...using *appropriate* standards

in a pragmatic way

AVEVA Interoperability solutions

ISO 15926



AVEVA Interoperability solutions

- **Case Study (1):**
  - StatoilHydro Heidrun (North Sea) topsides

AVEVA Interoperability solutions

Intergraph PDS to AVEVA PDMS Translation

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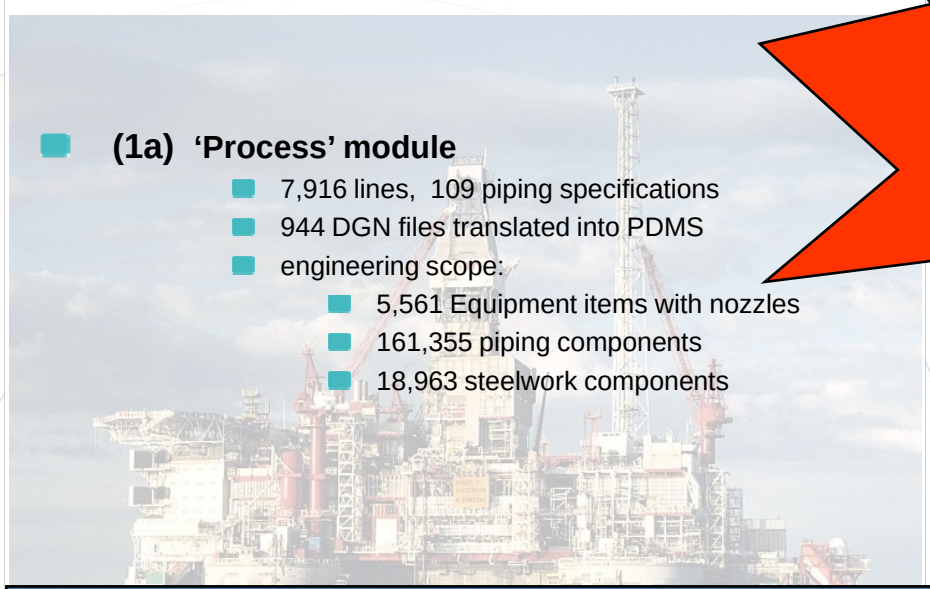

- **(1a) 'Process' module**
  - 7,916 lines, 109 piping specifications
  - 944 DGN files translated into PDMS
  - engineering scope:
    - 5,561 Equipment items with nozzles
    - 161,355 piping components
    - 18,963 steelwork components

Full piping Catalogues & Specifications

8,000 lines
950 DGN files

"No Limits"

AVEVA Interoperability solutions

Intergraph PDS to AVEVA PDMS Translation

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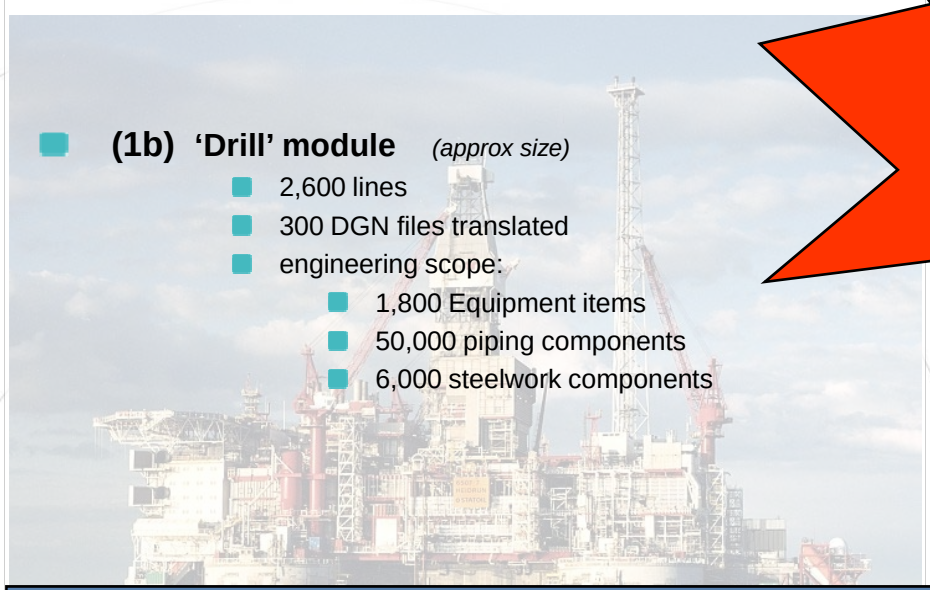


- **(1b) 'Drill' module** *(approx size)*
  - 2,600 lines
  - 300 DGN files translated
  - engineering scope:
    - 1,800 Equipment items
    - 50,000 piping components
    - 6,000 steelwork components

Full piping Catalogues & Specifications

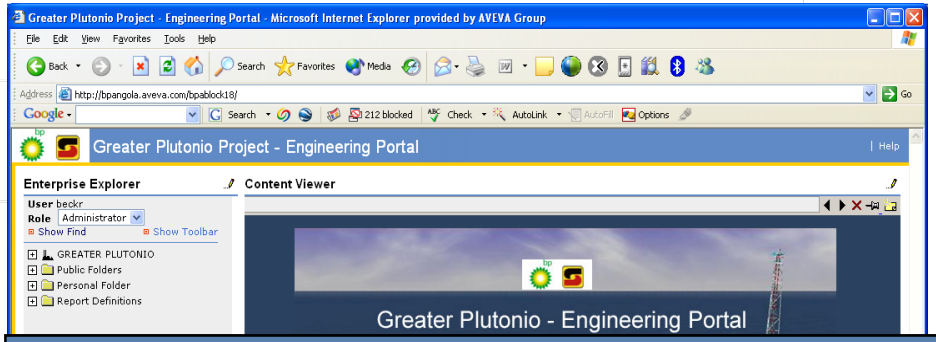
2,600 lines
300 DGN files

} "No Limits"

AVEVA Interoperability solutions

AVEVA NET Portal

- **Case Study (2):**
  - BP Angola
    - $3.3 billion FPSO
    - engineering scope
      - 600 P&IDs (PEGS)
      - 3D Plant Models (AVEVA PDMS)
      - 1 million documents



600 PIDs
1 million docs

} “No Limits”

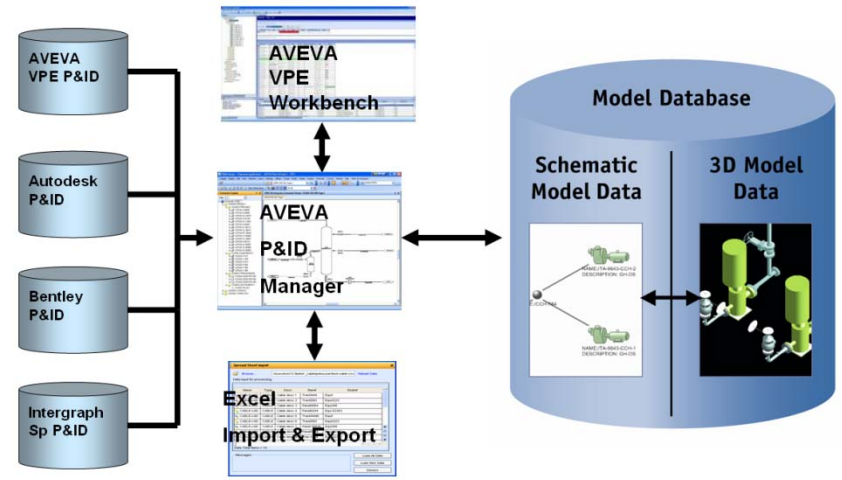
AVEVA Interoperability solutions

Integrated Schematic Model & 3D multi-disciplinary engineering model

- interoperability between AVEVA applications

- consistent Object Management
  - consistent AVEVA database
  - common **ISO 15926** framework

AVEVA P&ID Approach



AVEVA Interoperability solutions

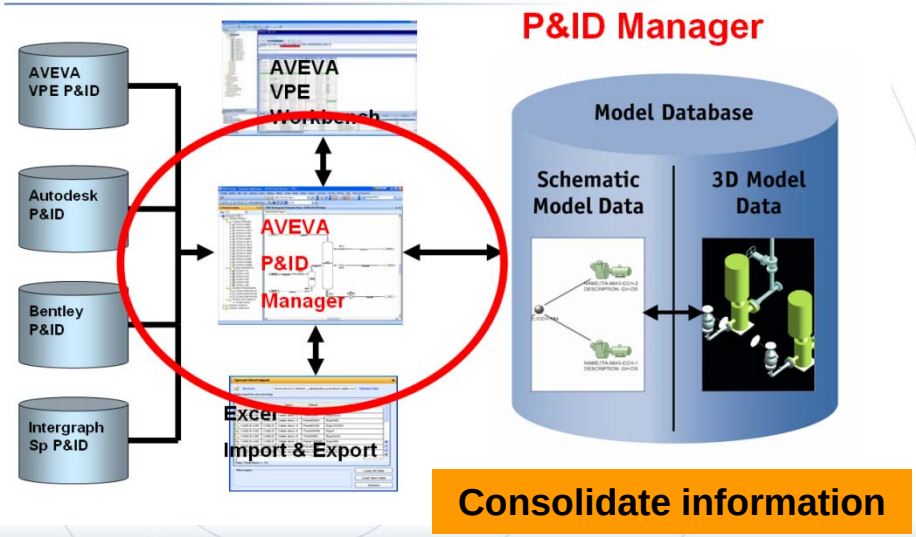
Integrated Schematic Model & 3D multi-disciplinary engineering model

- interoperability between AVEVA applications

- consistent Object Management
  - consistent AVEVA database
  - common **ISO 15926** framework

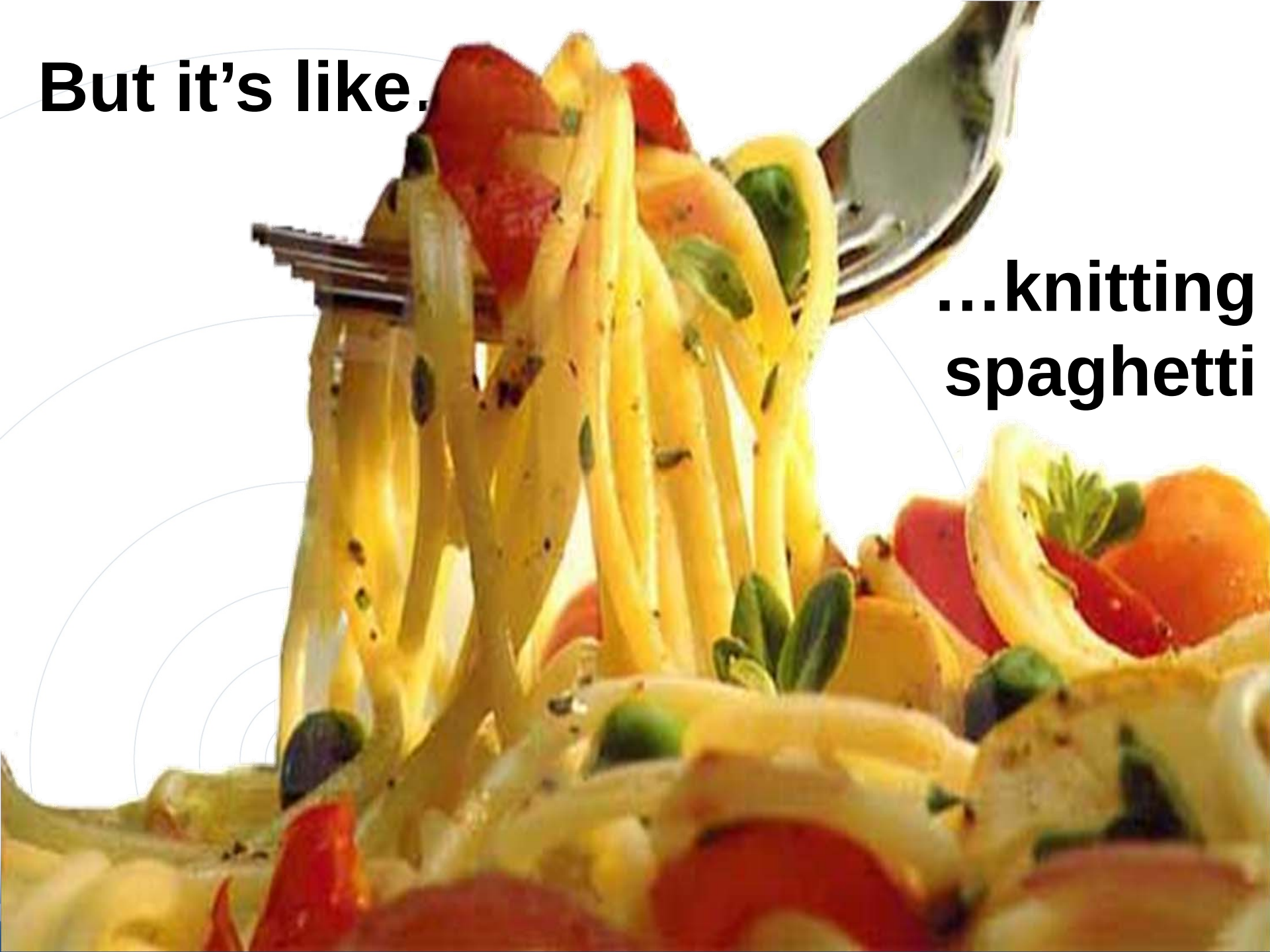
- **Case study 3: AVEVA P&ID Manager**

AVEVA P&ID Manager



Consolidate information

But it’s like.



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AVEVA Interoperability