

Extending the information model lifecycle

A practical approach to BIM in the Build Phase

How do we approach the evolving business and technology landscape that has started to manifest itself during the last couple of years?

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NCC Construction Sverige AB



Extending the information model lifecycle *A practical approach to BIM in the Build Phase*

Strategies

Business perspective

- Trends
- Our approach
- Pitfalls

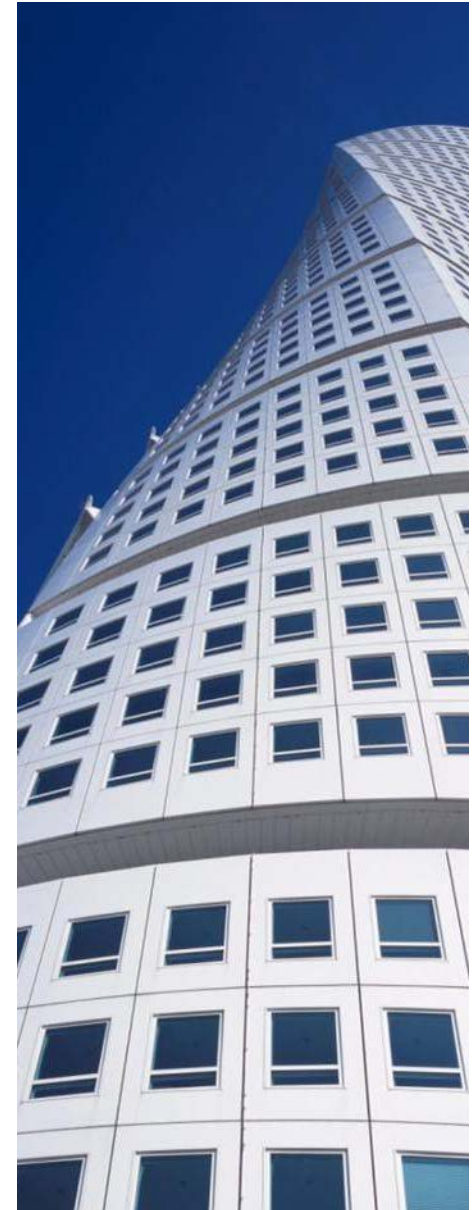
IT perspective

- Trends
- Our way forward

The value of 'legacy data' in VDC

Multi-disciplinary BIM for use on site

What to measure, VDC KPI's



Business perspective

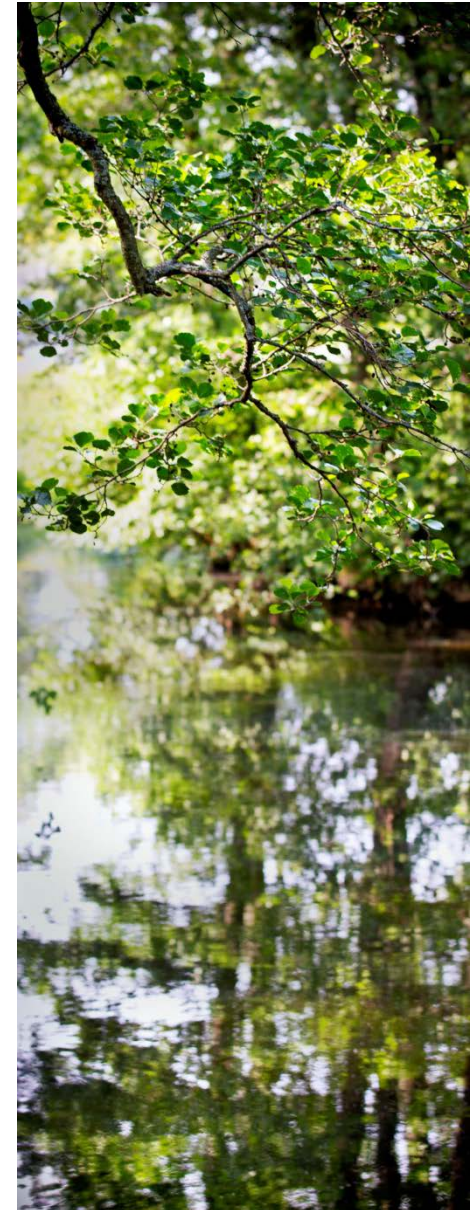


Trends

External pressure
from customers

BIM is **maturing**, competitors are
more active

Megatrends, Sustainability,
Next Generation Employees,
Globalization



Strategy 2012-2015

Profitable growth

Customer
focus

Market
leader

Costs

One NCC

Housing
units

Sustain-
ability



≥ Double GDP growth

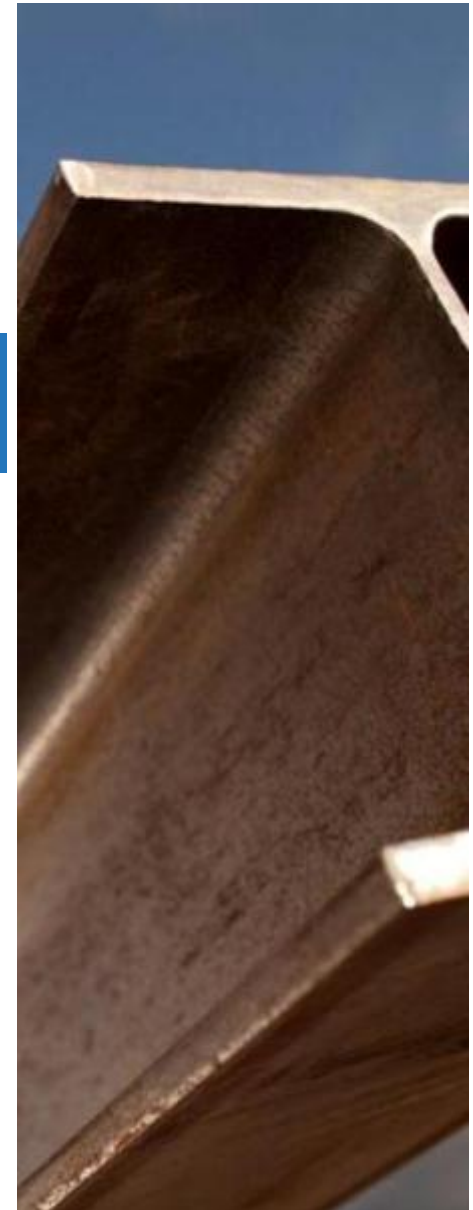
≥ Double GDP growth

≥ 7,000 housing units

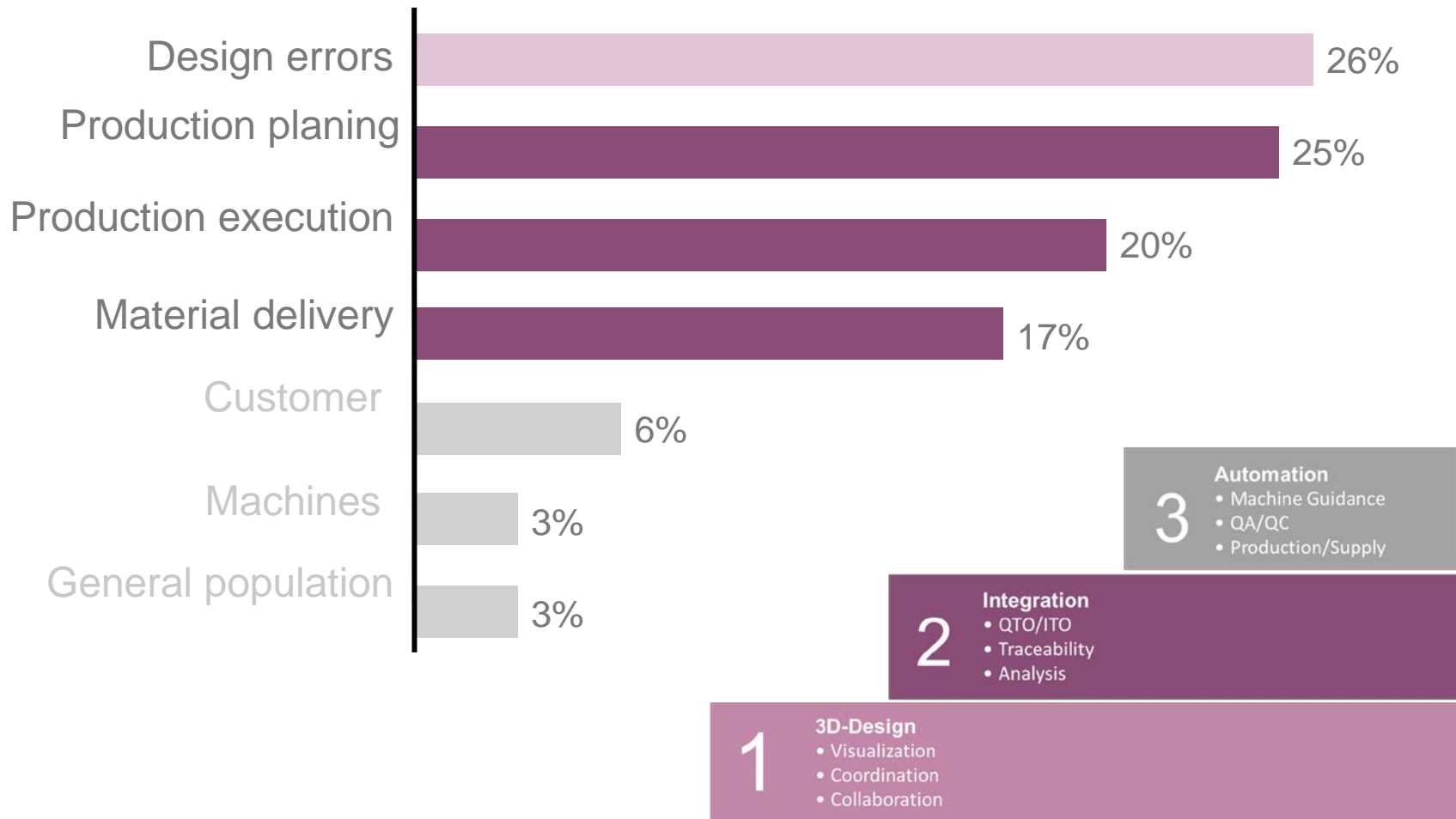
Construction and civil engineering business

Sales increase \geq double GDP growth

- Focus on strategic areas
 - VDC (Virtual Design and Construction)
 - Business enterprise system
 - Risk management
 - Purchasing



Where should we focus



Integrated IT-Systems and VDC



Trends

Mobility

Cloud services

Megatrends, IT & Digital media,
Next Generation Employees

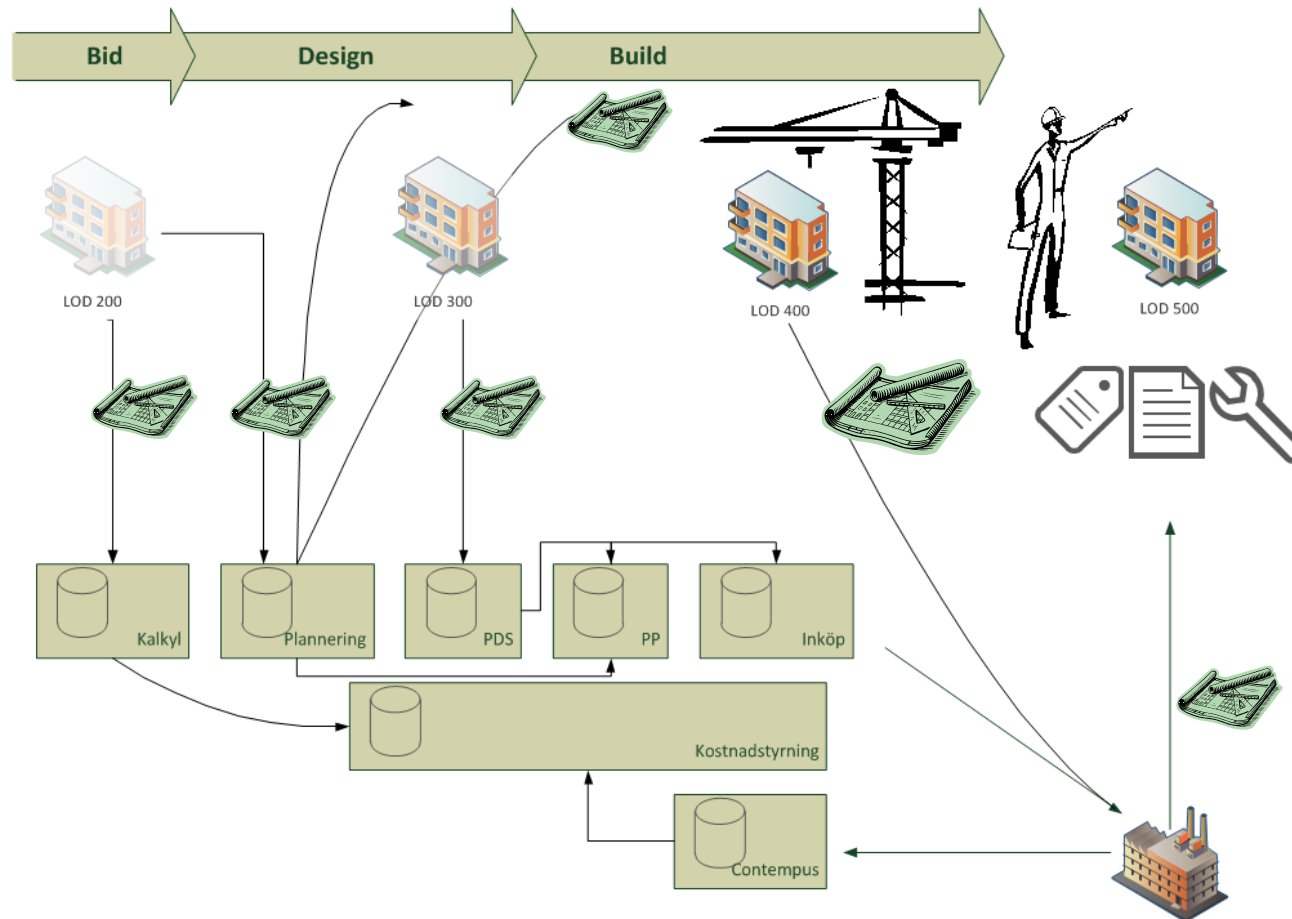


IT perspective

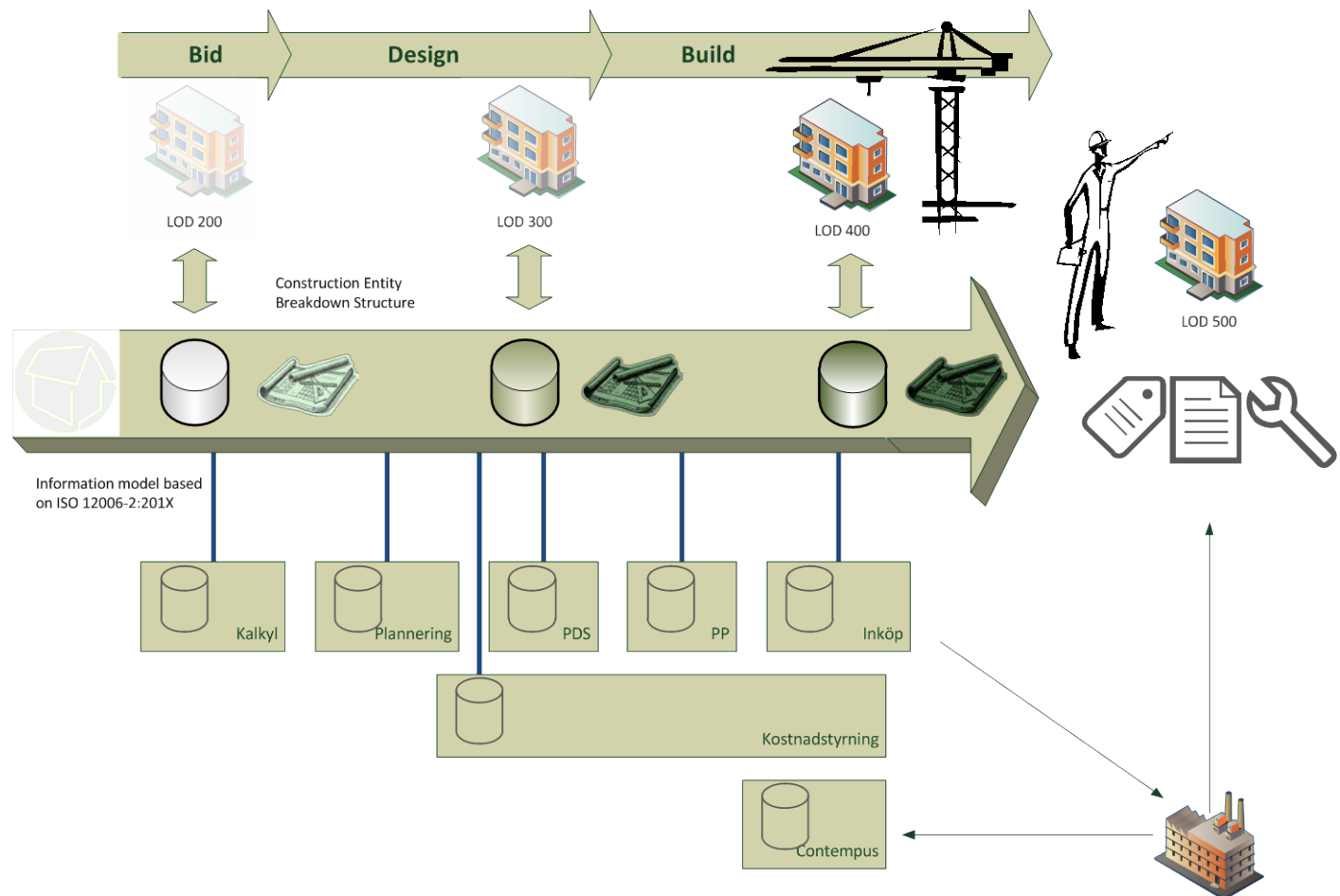
- 2010
 - Legacy systems, data is isolated
 - PC & Server based system
 - CAD → 3D → pdf
- 2013
 - BIM is mature, tools are developed (but still pdf is used)
 - New eco-systems and cloud technologies
 - Ipad / Android / Win RT / Win 8
 - Integration of data is important
 - Analysis (Technical and Business)



To regain the competitive advantage we needed to transform the old drawing based systems



into a new integrated model and data management system



VDC IT-Strategy

By establishing a common information and data layer for all NCC's construction works, we can support integration, automation and analysis while maintaining control of the information.

Using strategic partnerships to provide cloud solutions we can extend our information to new echo-systems and external parties.



Pitfalls

Legal issues

People

Lack of standards

Multiple Echo systems and versions

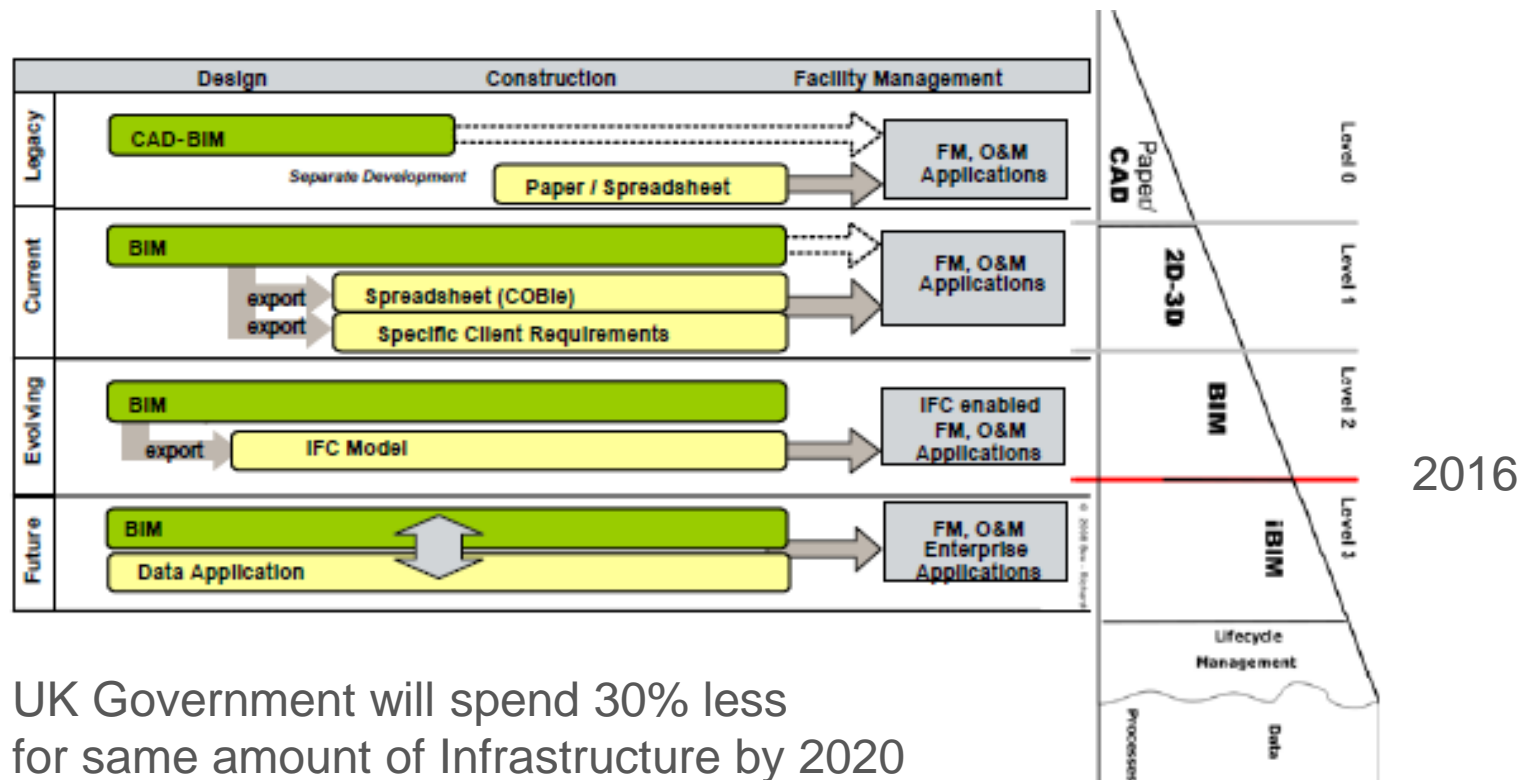
Connectivity

Cloud Integration



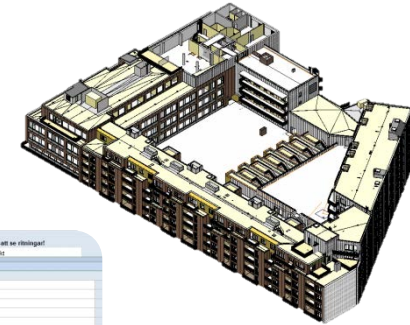
Why ?

What is the value of 'legacy data' in VDC

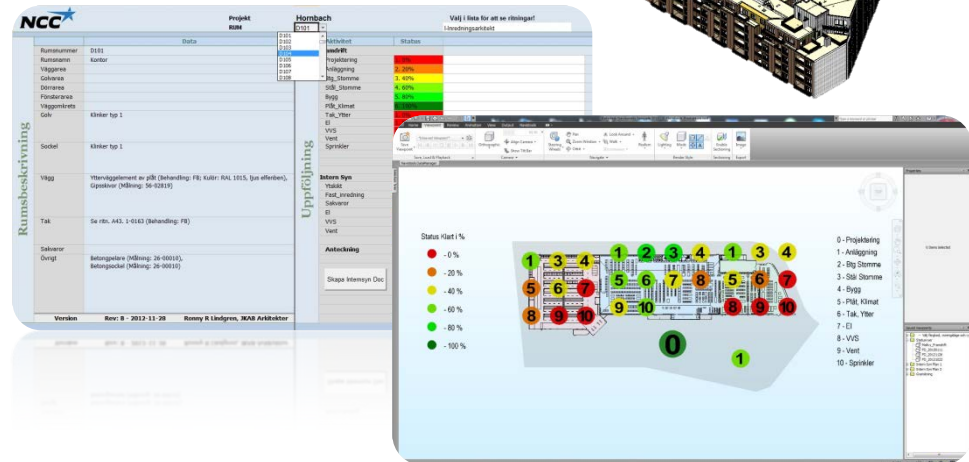


UK Government will spend 30% less for same amount of Infrastructure by 2020
National target for Level 2 BIM is 2016

VDC – Onsite *what did we use*

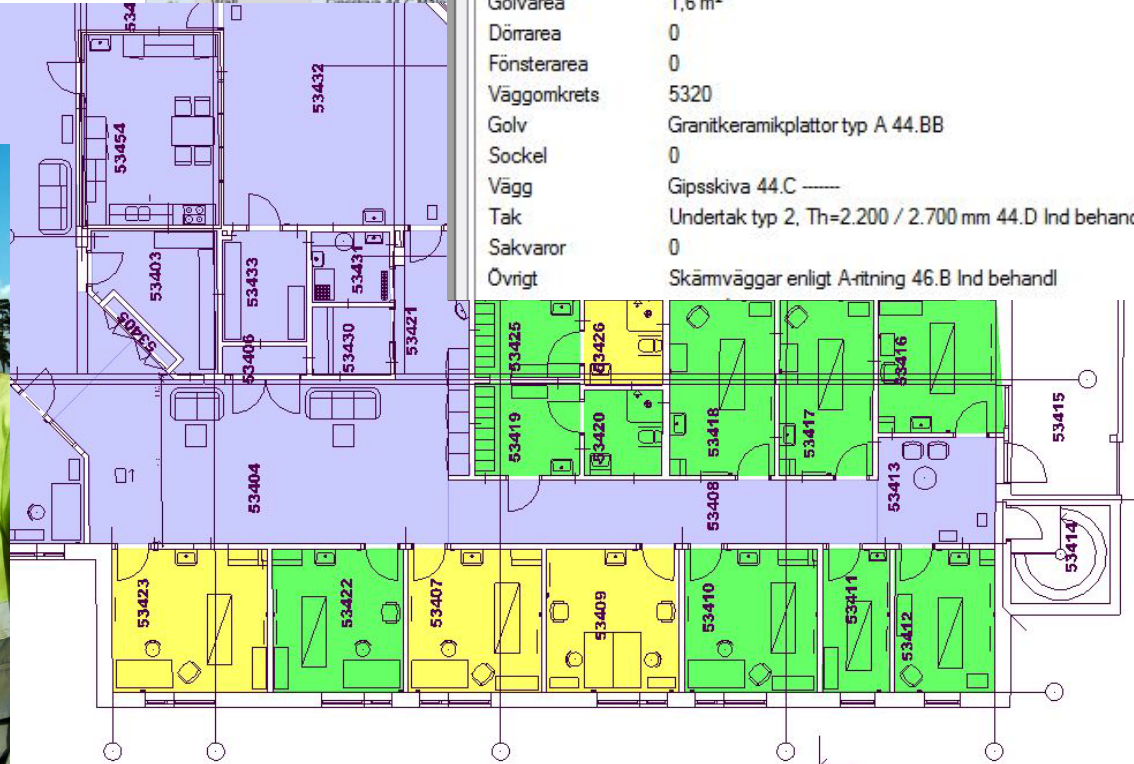


- Model
 - Space/Location breakdown structure
 - Revit/Architecture/ArchiCAD/IFC
 - Project Template
- NCC DataTool
 - Information and data management
 - Offline using Excel
- 3D model for Production
 - Build phase or production specific
 - Links on objects to information
 - QA/QC data
 - Preset views and color schemas
- Tablet-PC / Win 8 Slate / Kiosks
 - Sync for Offline use



Use case 1 QA/QC Information Production data





NCC

Space ID	1101
Space Name	VINDFÄNG
Wall area	8,45
Floor area	32,71
Door area	22,2
Window area	51,15
Wall cricum.	27,77
Floor	Slipat betonggolv 44
Floor2	Torkmatta, omfattn
Floor3	
Base/Dado	Trs 44.88 Ind behar

Properties

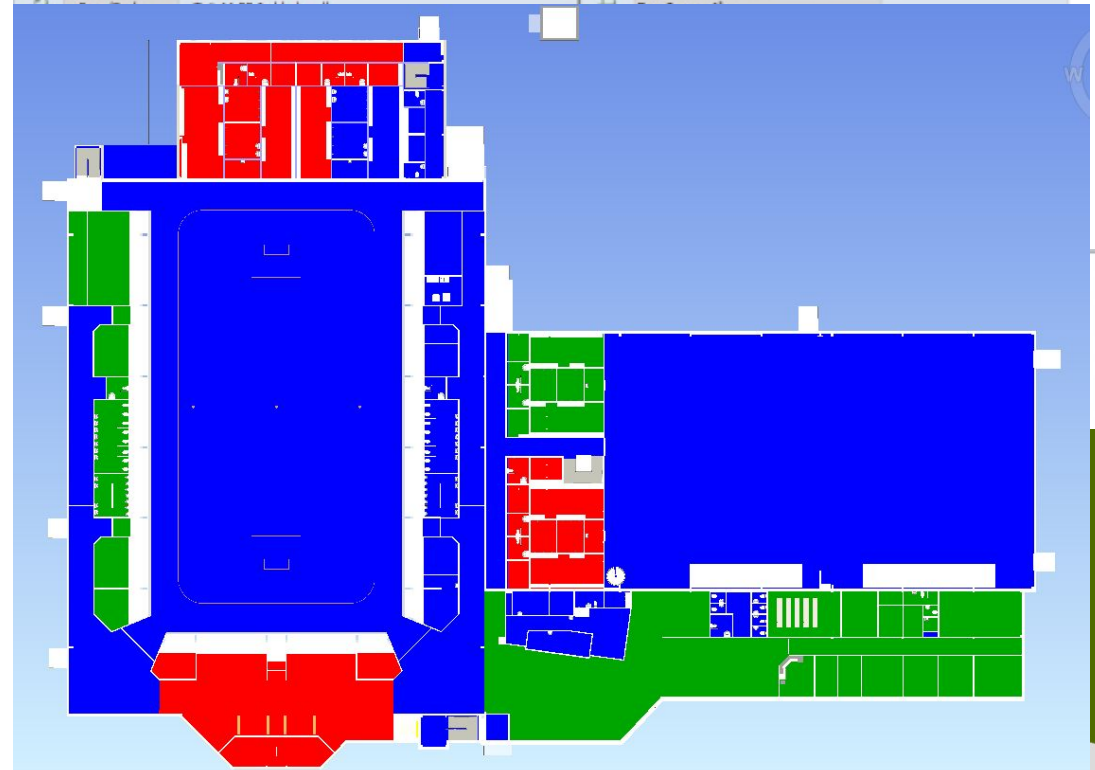
Item	Element	Phase	Level	Upper Limit	TimeLiner	NCC SSS Växjö	Elem
Property	Value						
Node	102						
Date_Change	2013-05-15						
Rumsnummer	102						
Rumsnamn	WC						
Väggarea	0						
Golvarea	1,6 m ²						
Dörrarea	0						
Fönsterarea	0						
Väggomkrets	5320						
Golv	Granitkeramikplattor typ A 44.BB						
Sockel	0						
Vägg	Gipsskiva 44.C						
Tak	Undertak typ 2, Th=2.200 / 2.700 mm 44.D Ind behandl						
Sakvaror	0						
Övrigt	Skämväggar enligt A-ritning 46.B Ind behandl						

Use case 2

Personalised: Planning & progress

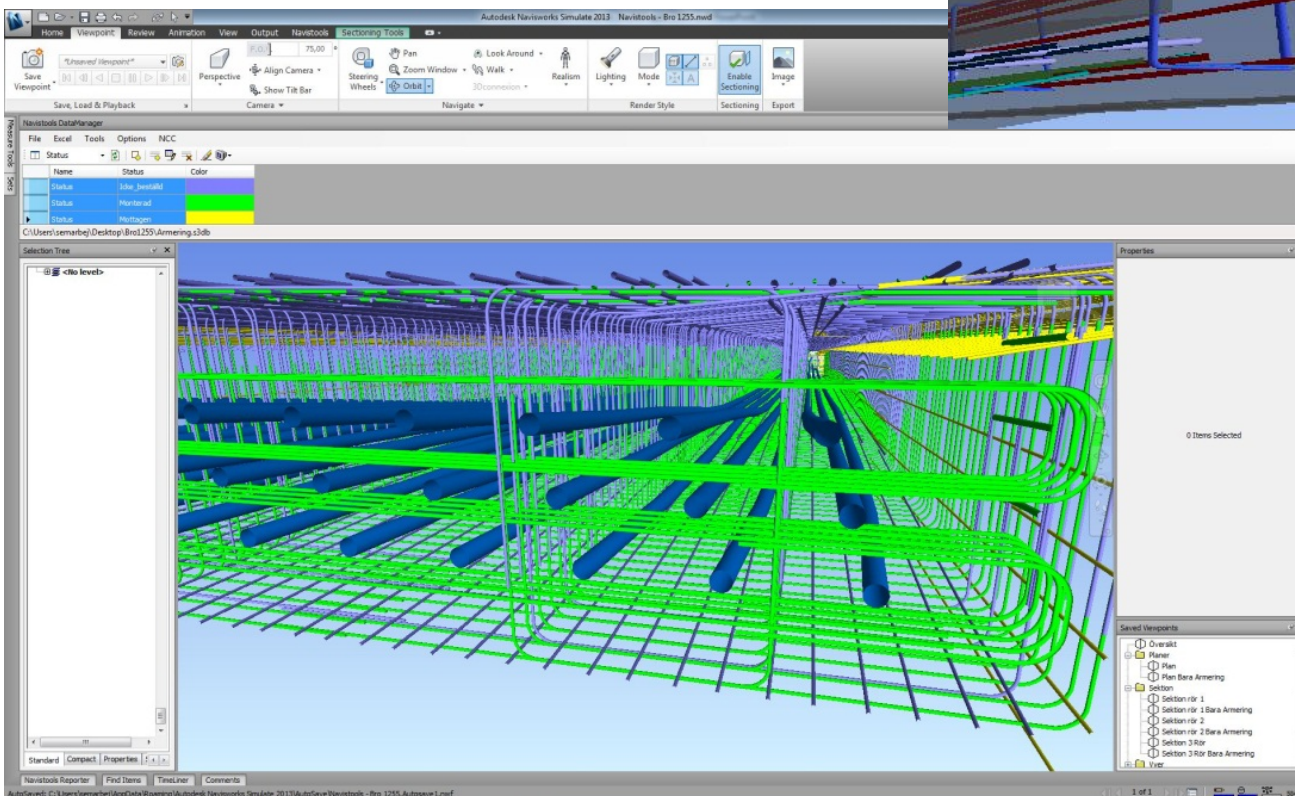
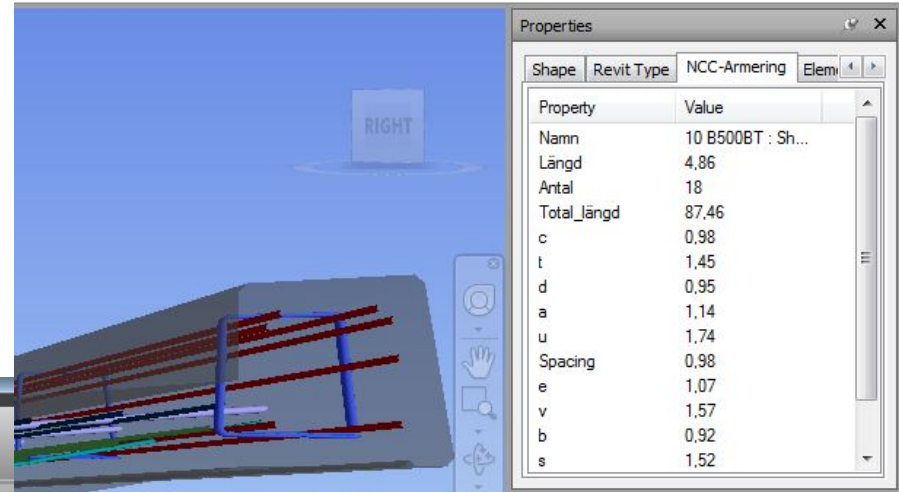


NCC		Project	Fortnox
		Space ID	1101
Data		Aktivitet	Status
Space ID	1101	Progress	
Space Name	VINDFÅNG	Wall	2. Started
Wall area	8,45	Painting	2. Started
Floor area	32,71	Suspended Ceiling	1. Not Started
Door area	22,2	Floor	3. Done
Window area	51,15	Electrical	1. Not Started
Wall cricum.	27,77	Plumbing	1. Not Started
Floor	Slipet betonggolv 44.BB Fabr standard	Ventilation	1. Not Started
Floor2	Torkmatta, omfattning enligt A-ritning 45.C	Sprinklers	1. Not Started
Floor3			



Use case 3

Visualization of Logistics och work preparations



VDC KPI's

1. How many projects are using VDC
2. The development of VDC
3. The amount of VDC used

Make it part of a BI/CI solution and leverage your common data

