How BIM is used in the construction industry – prospects for use in nuclear decommissioning

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dag.fjeld.edvardsen@catenda.no

Founded in 2009

Bimsync 2012

References

SNCF

Bouygues
Immobilier

VINCI
IMMOBILIER

ARTELIA

egis

鹿島
KAJIMA CORPORATION

FCB

SBB CFF FFS

hrs

Grand
Paris
express

Erasmus MC

AF
AF GRUPPEN

Statnett

MEINHARDT

Schiphol
Amsterdam Airport

BOUYGUES
CONSTRUCTION

SWECO

VEIDEKKE

STATSBYGG

AFRY

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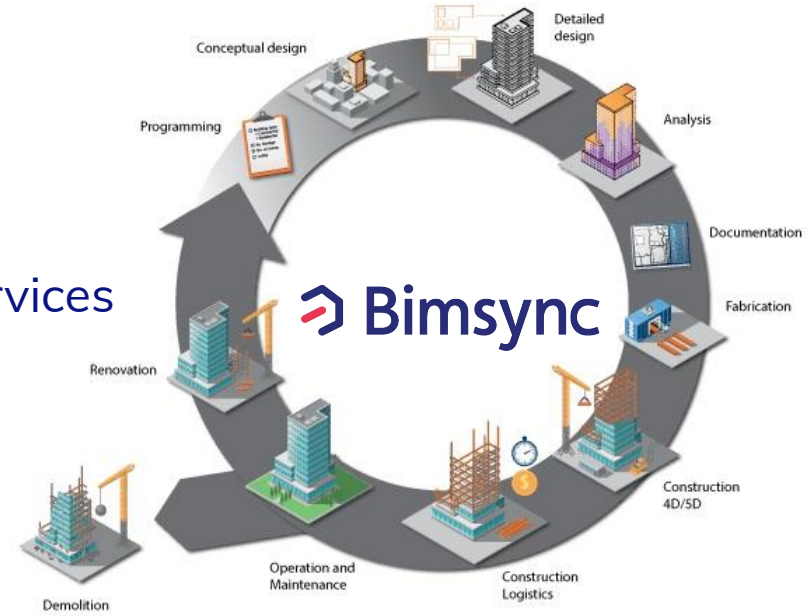
2 products

- **Bimsync®** Arena
  - Collaborate and coordinate
- **Bimsync®** Boost
  - Use our API to build new BIM services on top of our platform



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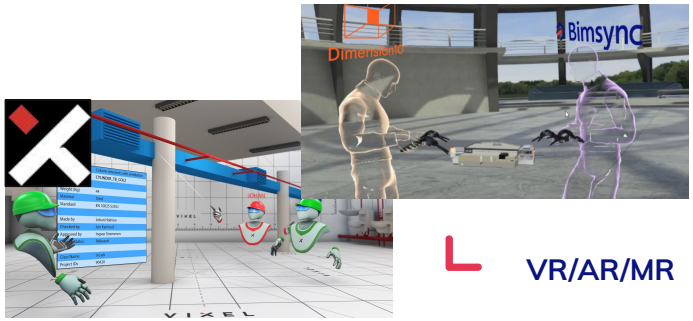
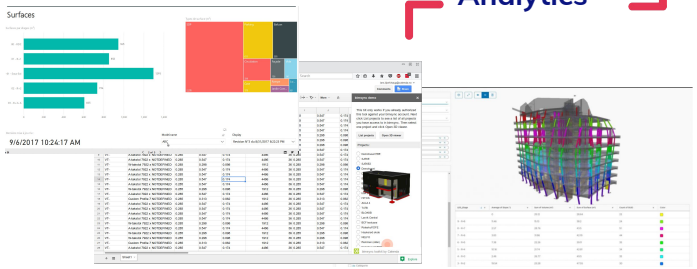
The Bimsync Ecosystem



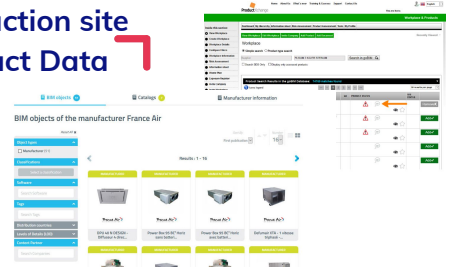
VR/AR/MR

Cost, FM
& Point Clouds

Bimsync



Analytics



Construction site
& Product Data

Bimsync is already integrated with several other 3rd party applications and systems.

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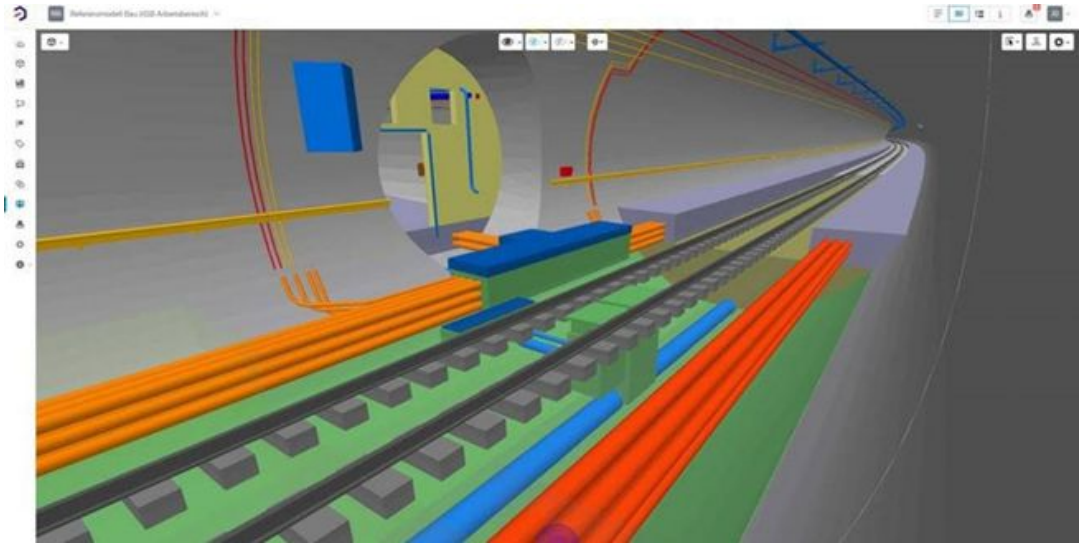
Bimsync Arena Case Studies



SBB - Brüttenertunnel - Switzerland

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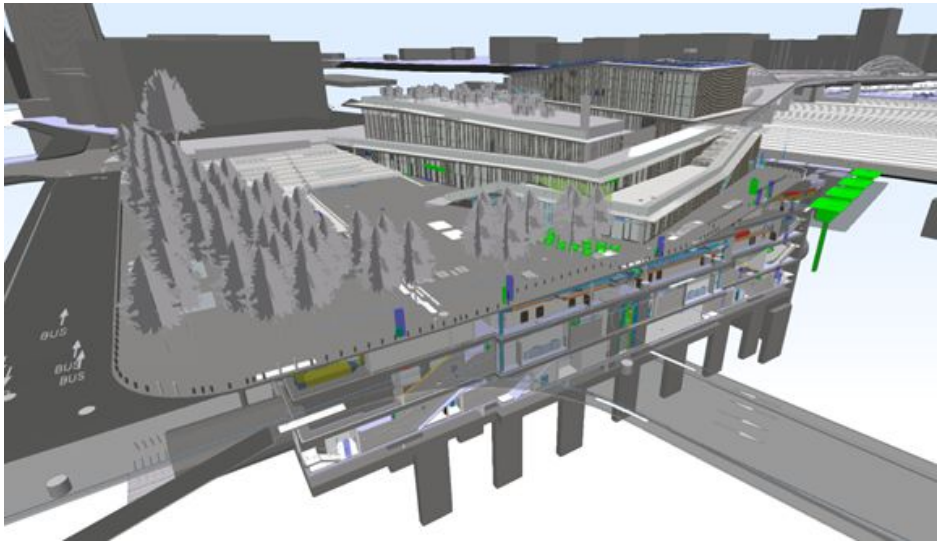
Bimsync Arena Case Studies



Grand Paris Express - Metro Line 16 - France

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Bimsync Arena Case Studies

LRT Marseille - France

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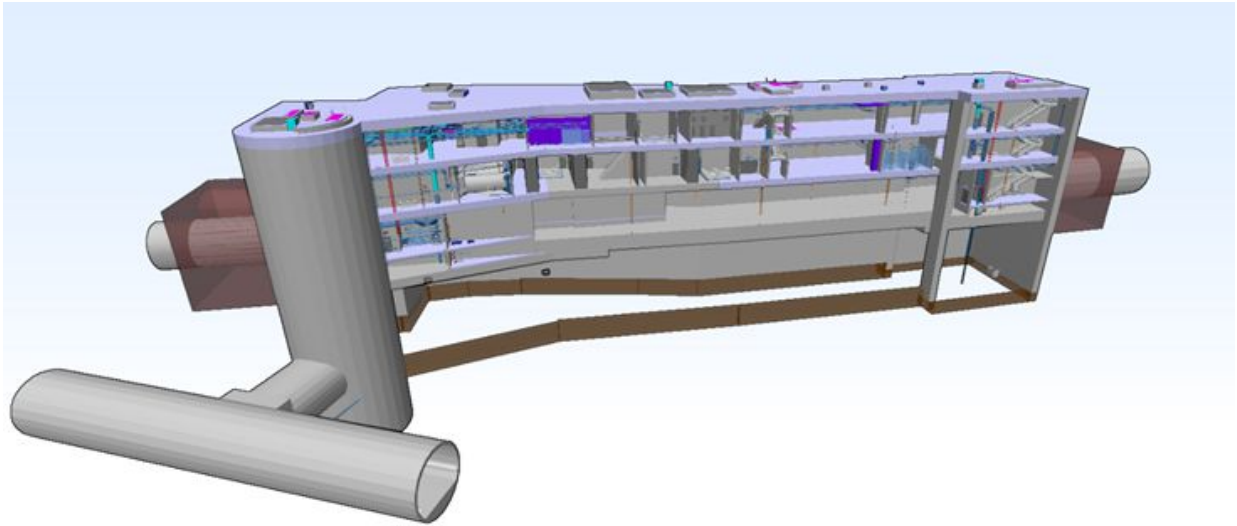
Bimsync Arena Case Studies



Metro Station Rennes - France

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LiveDecom - nuclear decomissioning

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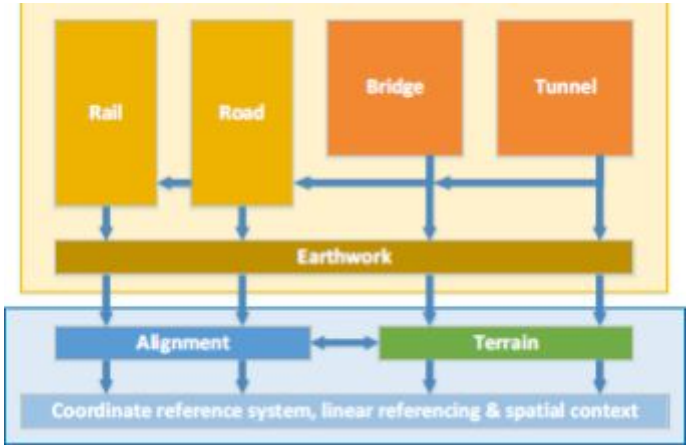
The building is not enough

Today IFC is for buildings, soon Infrastructure too.

Plants next?



What is BIM?

- BIM = Building Information Model(ing)
- More than 3D models
- Objects that can contain both geometry and information
- Buildings and building is very complex, object orientation can make working with in a structured way significantly easier
- Paper -> DWG / PDF -> RVT / IFC

What is open BIM

- open BIM is in practice IFC from **buildingSMART International (bsl)**
- bsI also promotes other standards such as bsDD, IDM, mvdXML and BCF
  - respectively: **semantic terms**, **information contracts**, **model views** **and** **fancy TODO-lists**
- We think of these as a powerful package, for us **openBIM is not only about IFC**

Related technology

- GTIN
- Product libraries
- Interactive visualization
- And much more
- BIM is the glue

E-mail + attachments = anti-structure.

BIM = structure. When done right and with the related workflows.

translate.google.com/translate?sl=auto&tl=en&u=https://www.fremtidensbygg.no/pa-paradisalleen-ble-e-post-droppet-til-fordel-for-bim/

FREMTIDENS BYGGENÆRING

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On Paradisalléen, e-mail was dropped in favor of BIM

Better control and fewer errors were the goal when Bimsync was chosen as the communication and planning tool for the Paradisalléen project in Bergen. Email was dropped almost completely.

Facebook Twitter Linkedin

Right from the start-up phase, it was decided that a cloud-based BIM collaboration tool (Bimsync) should be used as much as possible.

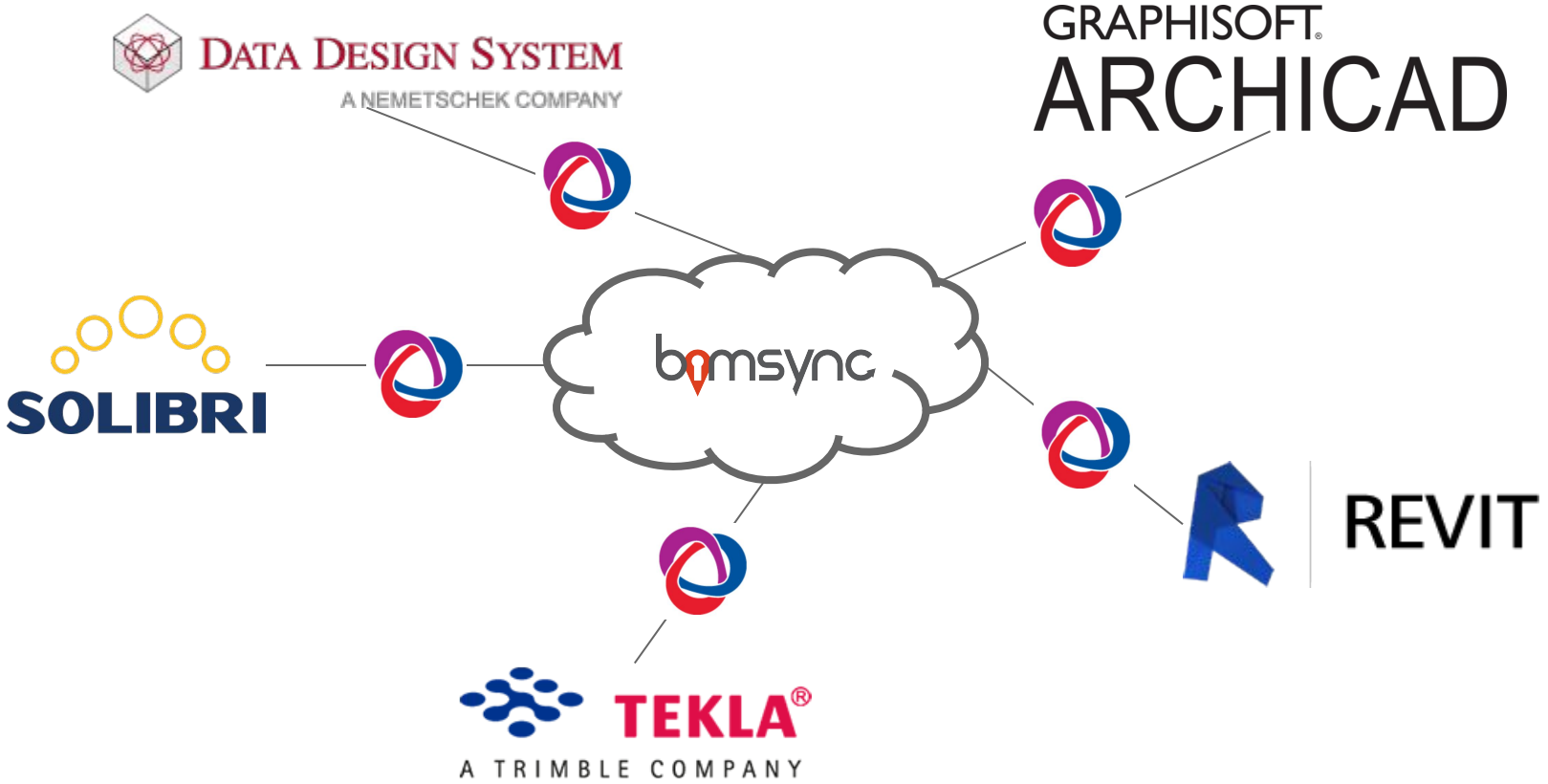
- All RIB engineering has been carried out in BIM. Exchange of the design documentation to subcontractors has been done through IFC files and exchange of original files. Subcontractors have largely used Tekla Structures. We have probably been very "strict" with the other players, and demanded that Bimsync be used for the best possible overview and efficiency. Unfortunately, many people still find it much easier to send an e-mail, instead of creating a case in a system. But we have very good experiences with linking the project's system with our own case processing system; Mantis, because both are online. Here, cases can easily be linked together, says civil engineer Andreas Zieritz at NODE consulting engineers.

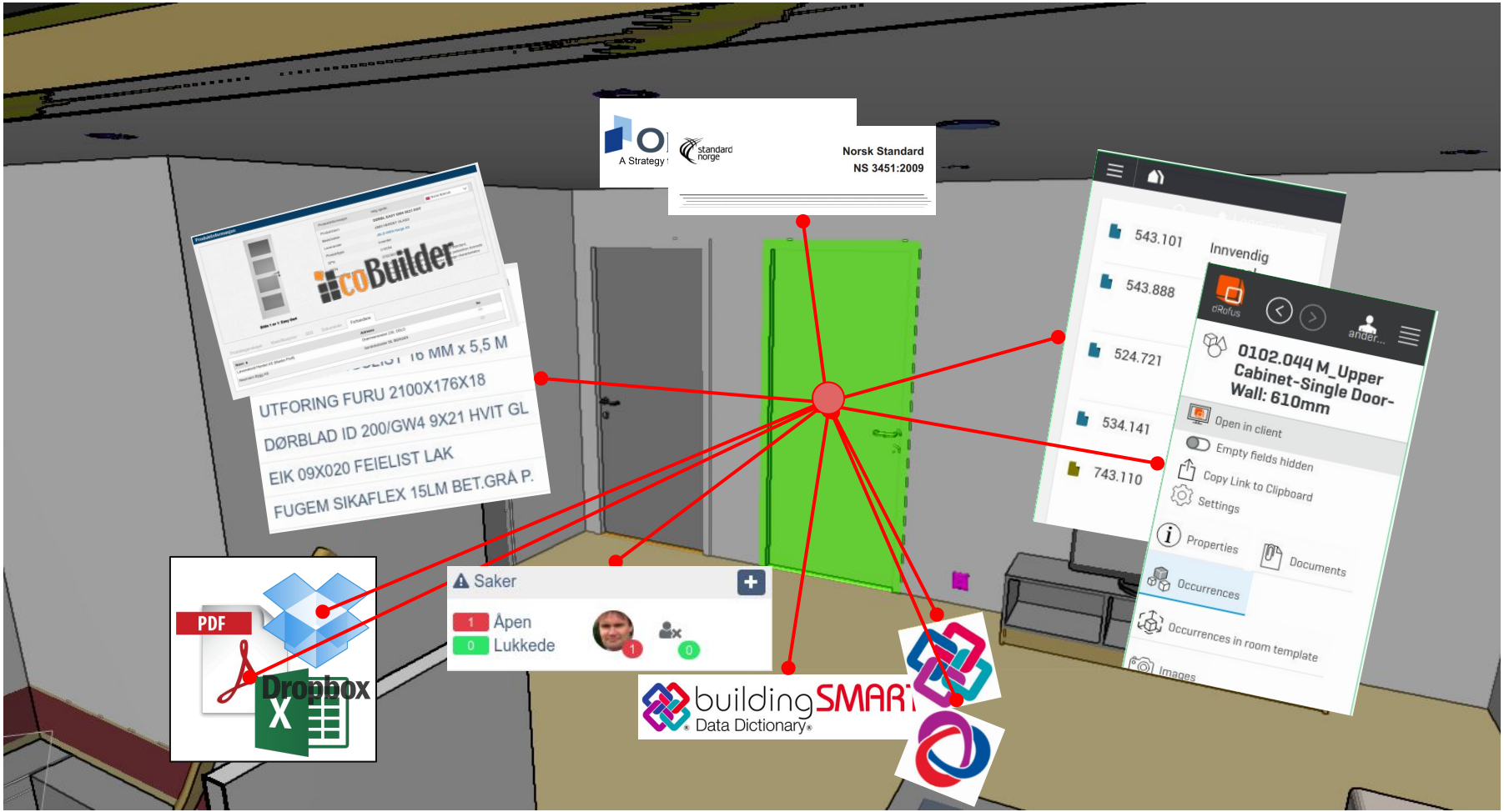
BIM creates overview and traceability

The company has been consulting engineers in construction engineering, building physics and geotechnics (RIB, RIBfy and RIG). They have also supplied complete production drawings, including cutting drawings for steel structures, prefabricated columns and beams. Zieritz emphasizes that a collaboration tool like this makes it especially easy to avoid mistakes and misunderstandings.

- Especially when questions arise afterwards about why some cases were done in one way or another, such systems are a great

Seamless issue management




Norsk Standard
NS 3451:2009
UTFORING FURU 2100X176X18
DØRBLAD ID 200/GW4 9X21 HVIT GL
EIK 09X020 FEIELIST LAK
FUGEM SIKAFLEX 15LM BET.GRÅ P.
543.101
Innvendig
543.888
524.721
534.141
743.110
0102.044 M_Upper Cabinet-Single Door-Wall: 610mm
Open in client
Empty fields hidden
Copy Link to Clipboard
Settings
Properties
Documents
Occurrences
Occurrences in room template
Images
Saker
Åpen
Lukkede
PDF
Dropbox
buildingSMART
Data Dictionary

Secure https://bimsync.com/project/8cae59940849461cbac3bb4748536b43/issues/14

bimsync | Nytt pasienthotell | 3D | Håvard Bell

Issues / Avvik / #14 | + New issue

← Back to issues

Denne må byttes, ikke i tråd med krav | Unfollow

Åpen | Feil

November 3, 2016
October 21, 2016

Assigned to: Håvar...
Requested by: Dag Fjeld Edva...

ARK ×

sdfsd sd

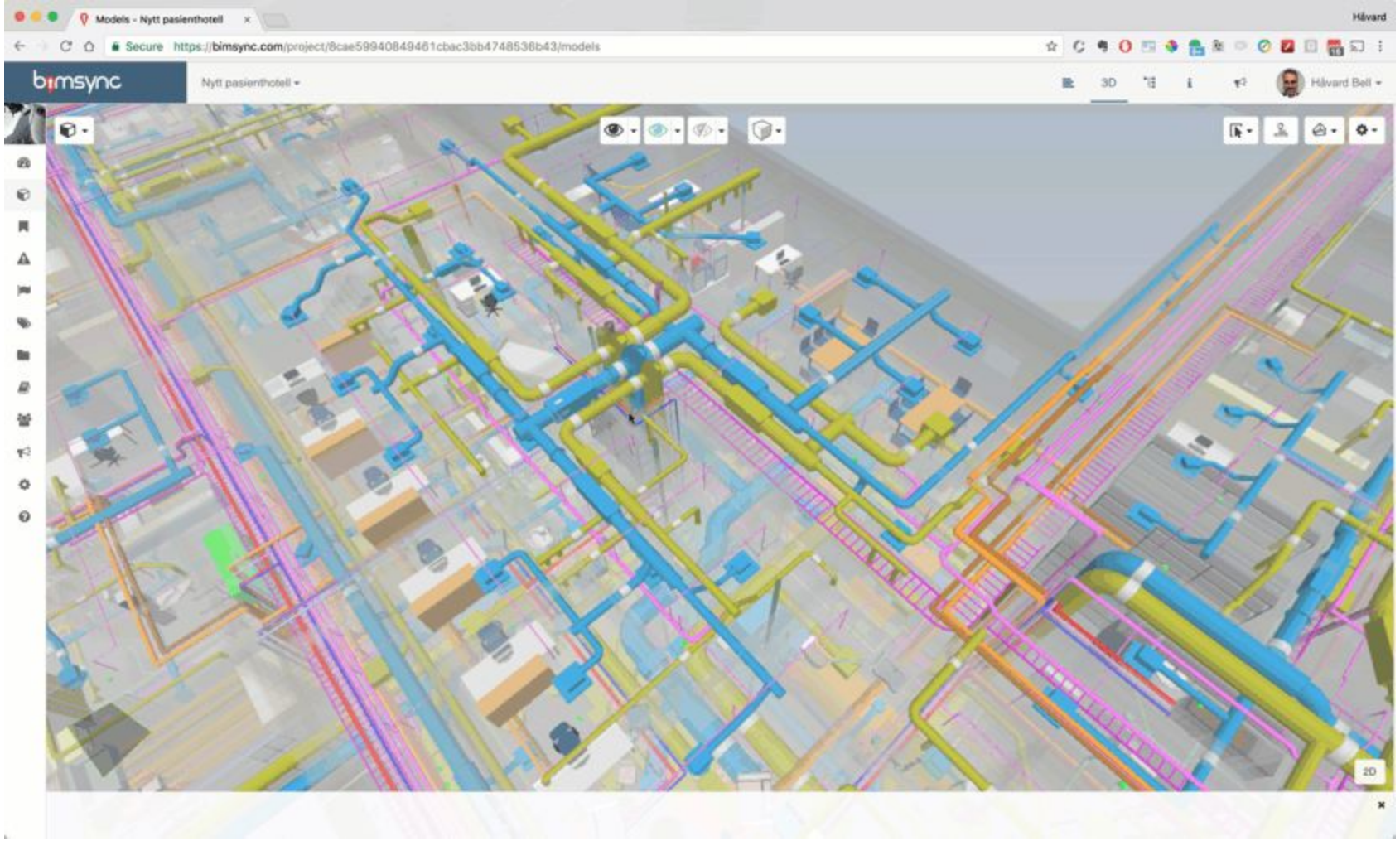
Dag Fjeld Edvardsen 5 months ago

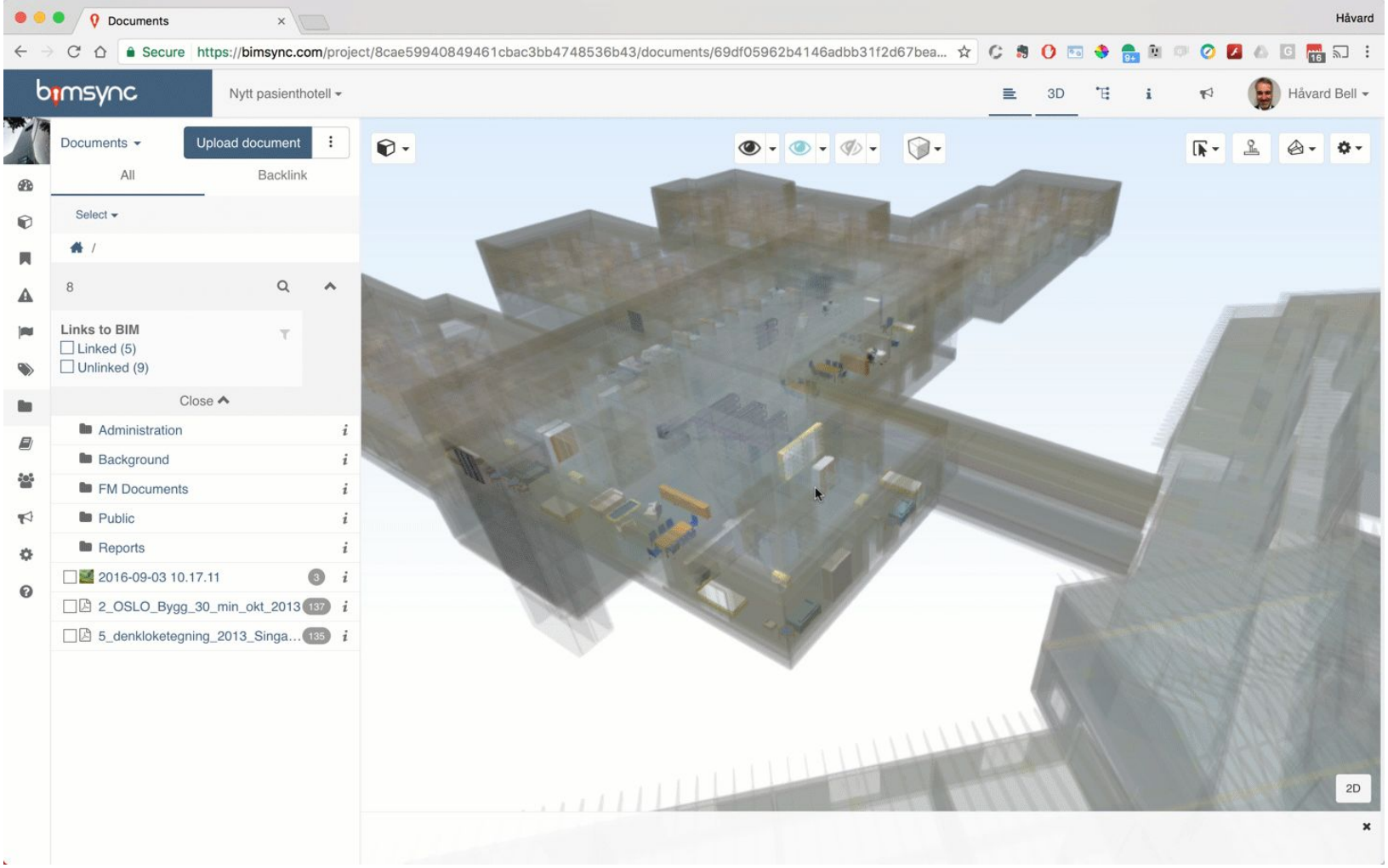
Kommentar!!

Write a comment ...

Submit

B- - Beam - Stål 50 x 50 - NOTDEFINED


Models - Nytt pasienthotell
Håvard
Secure https://bimsync.com/project/8cae59940849461cbac3bb4748536b43/models
bimsync
Nytt pasienthotell
3D
Håvard Bell
2D


Documents
Håvard
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bimsync
Nytt pasienthotell
3D
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Documents
Upload document
All
Backlink
Select
/
8
Links to BIM
Linked (5)
Unlinked (9)
Close
Administration
Background
FM Documents
Public
Reports
2016-09-03 10.17.11
2_OSLO_Bygg_30_min_okt_2013
5_denkloketegning_2013_Singa...
2D

Search...

Status
- [x] All (49)
- [ ] All open (44)
- [ ] Open (44)
- [ ] Closed (5)
- [ ] Resolved (0)
- [ ] Proposed (0)

Type
- [ ] Error (33)
- [ ] Warning (5)
- [ ] Info (11)
- [ ] Unknown (0)
- [ ] Spennende (0)

Due date
- [ ] Overdue (0)
- [ ] Less than a day (0)
- [ ] Less than a week (0)
- [ ] Less than two weeks (0)
- [ ] Less than a month (0)
- [ ] All with a due date (0)
- [ ] No due date (49)

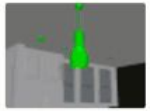
Assigned to
- [ ] Assigned to me (5)
- [ ] Unassigned (20)
- [ ] Anders Hjellvik (0)
- [ ] Anniken Strand (1)
- [ ] ARK (5)
- [ ] Dag Fjeld Edvardsen (13)
- [ ] Jan Erik Askjellrud (1)
- [ ] Jon Anders Sollien (0)
- [ ] Kristian Vedvik Holm (0)
- [ ] Lars Bjørkhaug (3)
- [ ] Ole Jørgen Karud (1)
- [ ] RIB (0)

49 hits

« Previous 1 2 3 4 5 Next »

0 of 49 issues selected. Sort

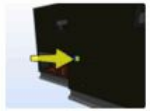
Sjekkliste #63
Open Error
Not assigned
Created by Håvard Bell
Updated 20 days ago. 2 comments



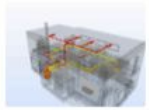
Problem. #62
Open Error
Not assigned
Created by Håvard Bell
Updated a month ago. 1 comment

Damaged lamp #61
Open Error
Assigned to ARK
Created by Håvard Bell
Updated a month ago. 2 comments

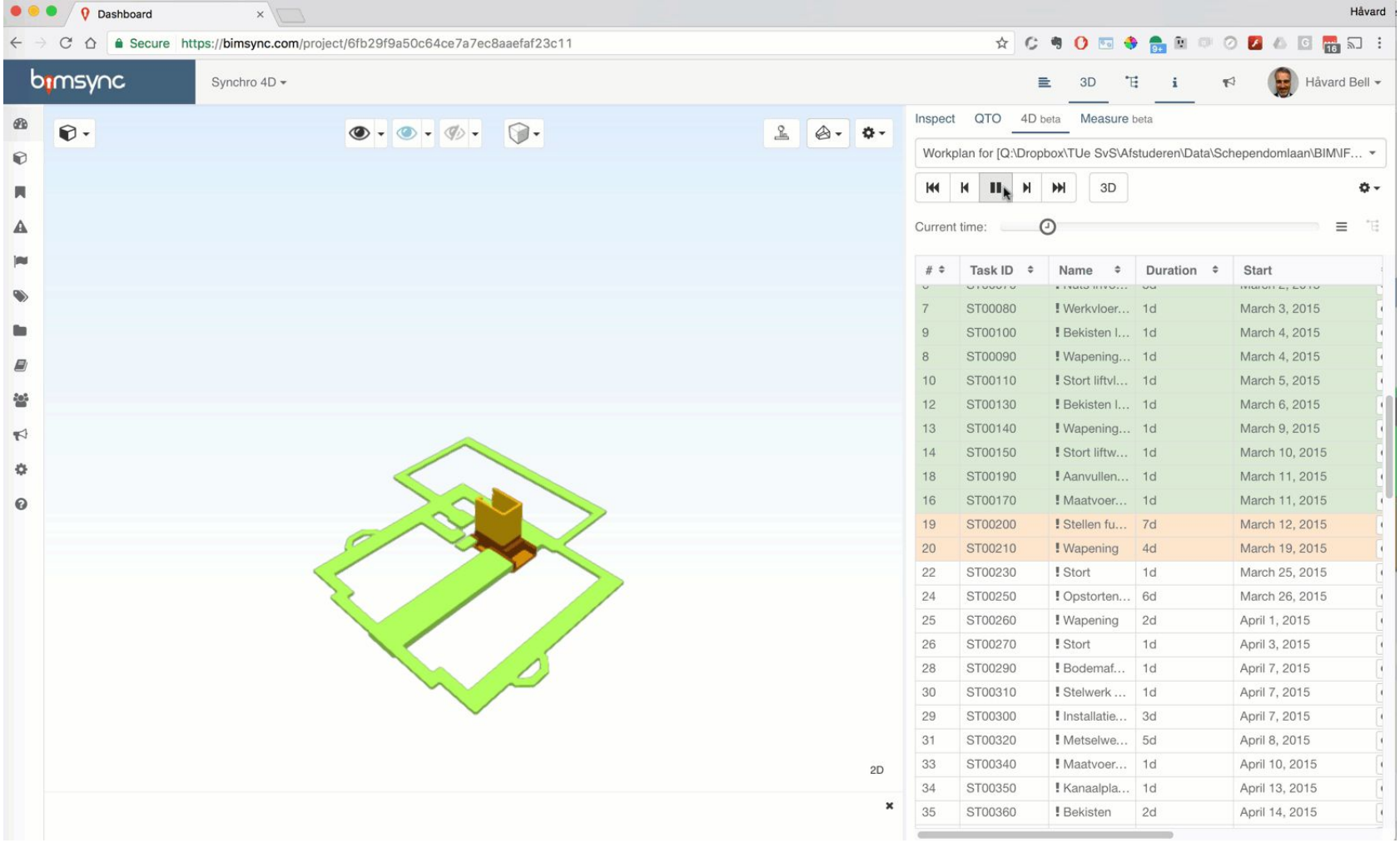
I dont need this #60
Open Error
Not assigned
Created by Dag Fjeld Edvardsen
Updated 2 months ago. 1 comment



Test 2 #59
Open Error damage
Not assigned
Created by Lars Bjørkhaug
Updated 2 months ago. 1 comment



Testing translucency when creating new issue from viewermode #58
Open Error



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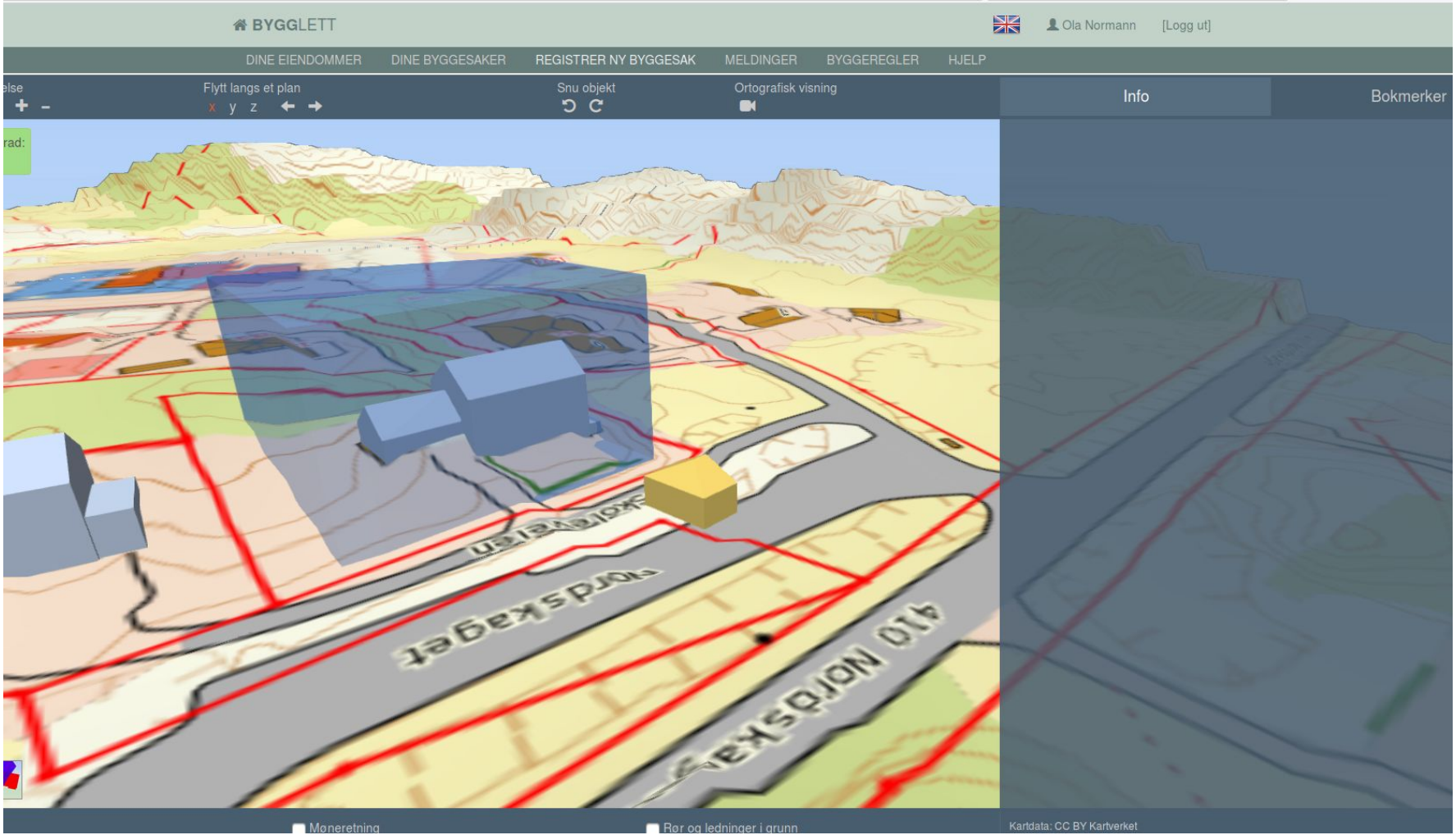
9	ST00100	! Bekisten l...	1d	March 4, 2015
8	ST00090	! Wapening...	1d	March 4, 2015
10	ST00110	! Stort liftvl...	1d	March 5, 2015
12	ST00130	! Bekisten l...	1d	March 6, 2015
13	ST00140	! Wapening...	1d	March 9, 2015
14	ST00150	! Stort liftw...	1d	March 10, 2015
18	ST00190	! Aanvullen...	1d	March 11, 2015
16	ST00170	! Maatvoer...	1d	March 11, 2015
19	ST00200	! Stellen fu...	7d	March 12, 2015
20	ST00210	! Wapening	4d	March 19, 2015
22	ST00230	! Stort	1d	March 25, 2015
24	ST00250	! Opstorten...	6d	March 26, 2015
25	ST00260	! Wapening	2d	April 1, 2015
26	ST00270	! Stort	1d	April 3, 2015
28	ST00290	! Bodemaf...	1d	April 7, 2015
30	ST00310	! Stelwerk ...	1d	April 7, 2015
29	ST00300	! Installatie...	3d	April 7, 2015
31	ST00320	! Metselwe...	5d	April 8, 2015
33	ST00340	! Maatvoer...	1d	April 10, 2015
34	ST00350	! Kanaalpla...	1d	April 13, 2015
35	ST00360	! Bekisten	2d	April 14, 2015


BYGGLETT
Ola Normann
[Logg ut]
DINE EIENDOMMER
DINE BYGGESAKER
REGISTRER NY BYGGESAK
MELDINGER
BYGGEREGLER
HJELP
Flytt langs et plan
x y z
Snu objekt
Ortografisk visning
Info
Bokmerker
Møneretning
Rør og ledninger i grunn
Kartdata: CC BY Kartverket

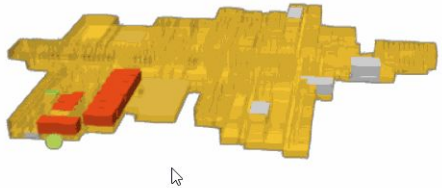
Color by

Temperature

- Below min
- OK
- Above max
- No data

Plan U1 | 1. Etasje | Teknisk etasje | 2. Etasje | 3. Etasje

Show all | Rooms only | Hide rooms



Bimsync

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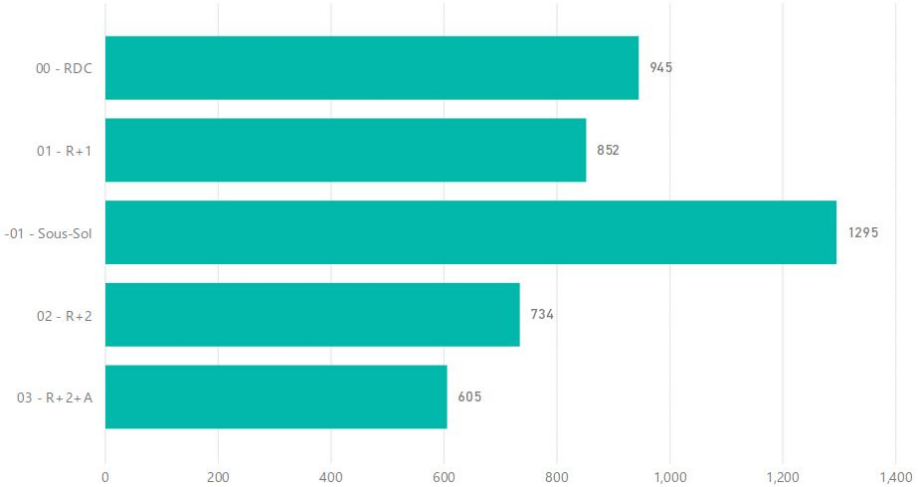
Surfaces

Surfaces par étages (m²)



Types de surface (m²)

Dernière mise à jour le :

9/6/2017 10:24:17 AM

Model.name

ARC

Display

Revision N°3 du 8/31/2017 8:22:23 PM

Firefox | bimsync connector - Google Sheets - Mozilla Firefox

bimsync connector - Go

https://docs.google.com/spreadsheets/d/1hTf29_zer93mUcnTW6YPEEZZoL4xzL3sallHnfRthJg/edit#gid=0

Search

bimsync connector

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

lars.bjorkhaug@catenda.no

Comments Share

100% $ % .0 .00 123 Arial 10 B I S A More

fx 0.174

	A	B	C	D	E	F	G	H	I	J	
1	VT-	A-takstol 7922 x	NOTDEFINED	0.285	0.547	0.174	4486	36	0.285	0.547	0.174
2	VT-	A-takstol 7922 x	NOTDEFINED	0.285	0.547	0.174	4486	36	0.285	0.547	0.174
3	VT-	A-takstol 7922 x	NOTDEFINED	0.285	0.547	0.174	4486	36	0.285	0.547	0.174
4	VT-	A-takstol 7922 x	NOTDEFINED	0.285	0.547	0.174	4486	36	0.285	0.547	0.174
5	VT-	W-takstol 7922 x	NOTDEFINED	0.285	0.298	0.098	1912	36	0.285	0.298	0.098
6	VT-	W-takstol 7922 x	NOTDEFINED	0.285	0.298	0.098	1912	36	0.285	0.298	0.098
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23	VT-	W-takstol 7922 x	NOTDEFINED	0.285	0.298	0.098	1912	36	0.285	0.298	0.098
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28	VT-	A-takstol 7922 x	NOTDEFINED	0.285	0.547	0.174	4486	36	0.285	0.547	0.174

Sheet1

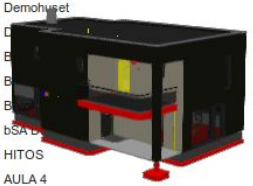
bimsync demo

This bit only works if you already authorized this tool against your bimsync account. Next click List projects to see a list of all projects you have access to in bimsync. Then select one project and click Open 3D viewer.

List projects | Open 3D viewer

Projects:

- Demohuset HBE
- SJEKE
- SJEKE2
- Demohuset
- HITOS
- AULA 4
- T47B
- BLOKKB
- Larvik Central
- BCF testcase
- Roteskuff DFE
- Haukerød skole
- NELFO
- Remmen (older)

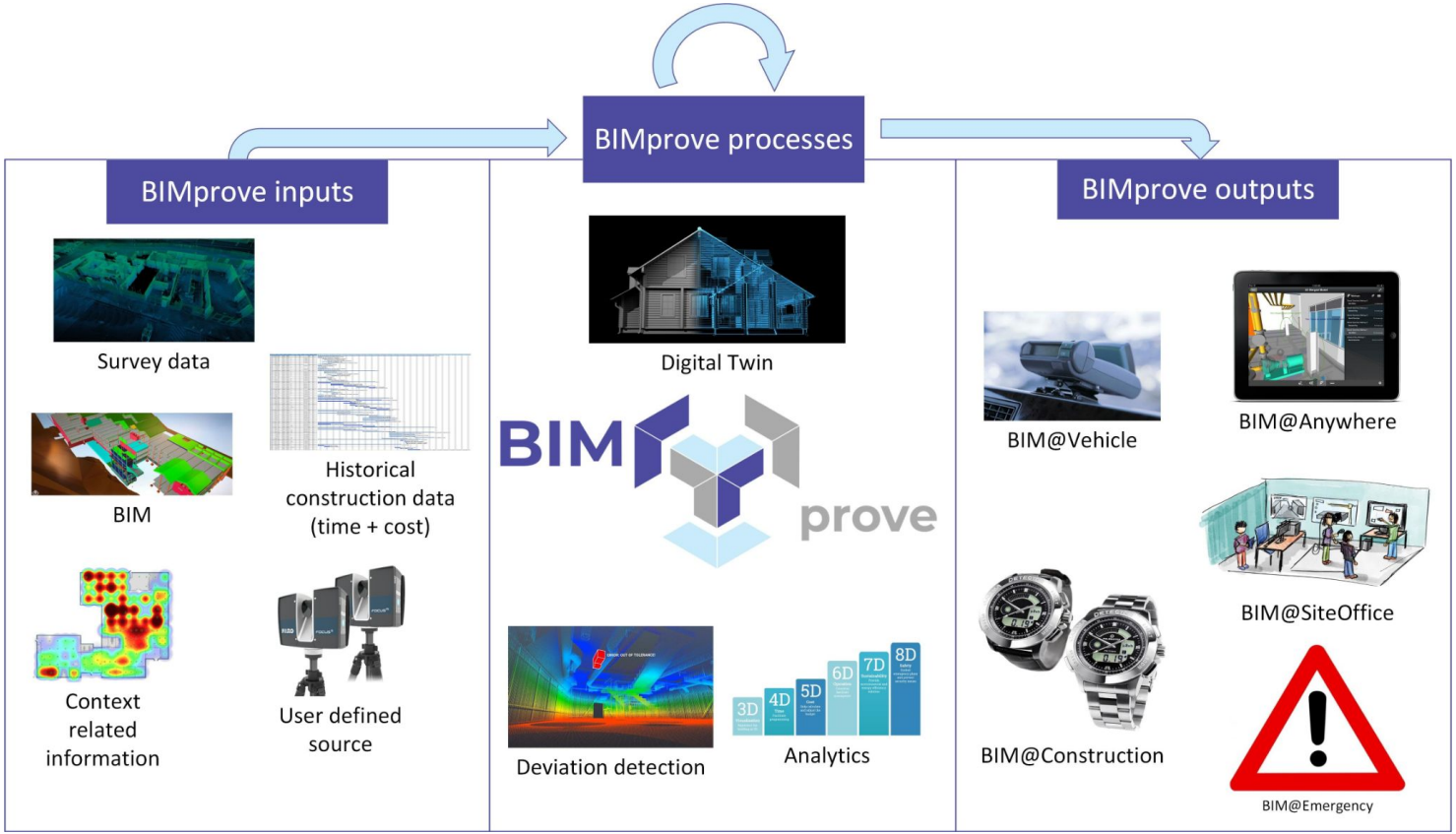


bimsync toolkit by Catenda

Explore

Messier 45
aka Seven Sisters
aka Pleiades
EU 2020 project,
Catenda is a partner

BIMprove - H2020 Project. Catenda is a partner. https://www.bimprove-h2020.eu
Goal: Improve safety and efficiency using BIM, robots/drones, scanning, sensors, Digital Twins



Catenda and open standards

In buildingSMART international, part of Developing bodies for

- IFC (“file format for open BIM”)
- BCF (“Widely used open BIM supporting task-collaboration”)
- bSDD (“Semantics”)

In Norway, part of several committees including

- NS8360 (Standard for Object Libraries in construction).

Catenda

Thank you!

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