

BIM Driven TakeOff, Estimating, Scheduling, and More

AEC-ST/EcoBuild – Session S-109 – 10-Dec-08

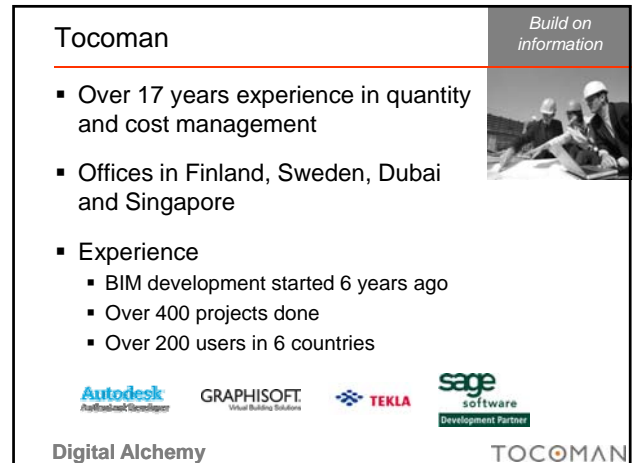


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Build on Information

**BIM Driven Takeoff,
Estimating, Scheduling & More**

AEC-ST Conference- Washington, DC

Tomi Tutti – Director of Products – Tocoman
Richard See - Managing Director – Digital Alchemy




Tocoman

- Over 17 years experience in quantity and cost management
- Offices in Finland, Sweden, Dubai and Singapore
- Experience
 - BIM development started 6 years ago
 - Over 400 projects done
 - Over 200 users in 6 countries

Autodesk Autodesk Developer GRAPHISOFT Virtual Building Solutions TEKLA sage software Development Partner

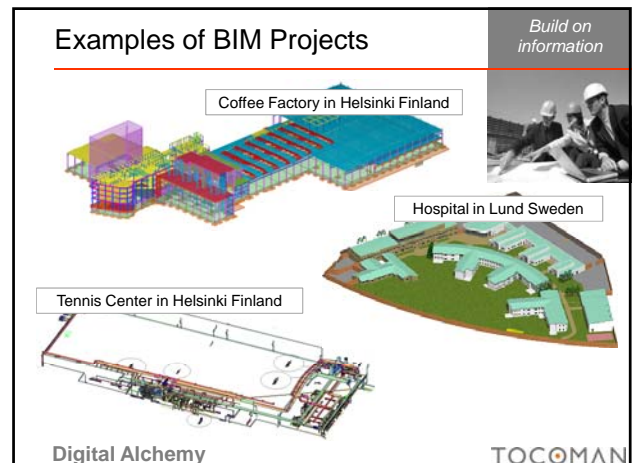
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Digital Alchemy

- <http://DigitalAlchemyPro.com>
- Office in Seattle – team size = 4
- BIM Products and Services
- North American Distributor for Tocoman, Solibri, and Eurostep
- Working with several organizations to transition to BIM based solutions (including GSA, NIBS, CSI, ICC, Jacobs, ...)
- Team has BIM experience back to 1984
- Autodesk, Visio, Microsoft mgmt roles since 1993
- Technical Director for IAI
 - Led the creation of IFC and development through first 3 releases

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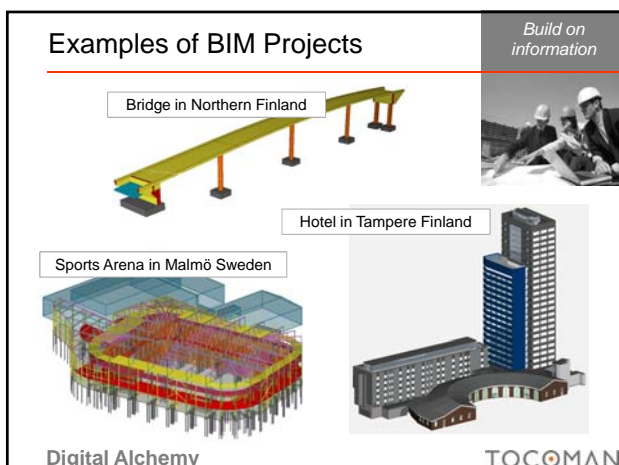
Examples of BIM Projects

Coffee Factory in Helsinki Finland

Hospital in Lund Sweden

Tennis Center in Helsinki Finland

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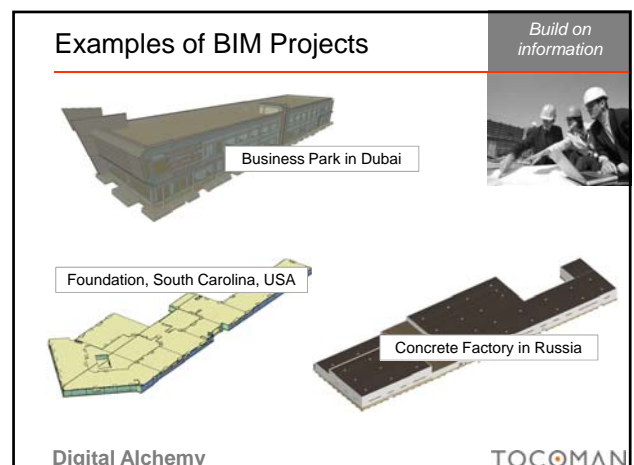
Examples of BIM Projects

Bridge in Northern Finland

Hotel in Tampere Finland

Sports Arena in Malmö Sweden

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Examples of BIM Projects

Business Park in Dubai

Foundation, South Carolina, USA

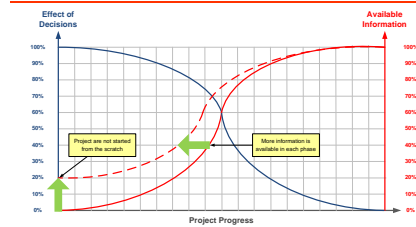
Concrete Factory in Russia

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More Information Using BIMs



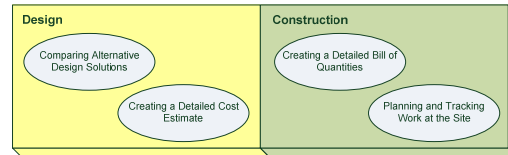
- Building models promote informed decision making
 - More information available
 - Improved information quality (accuracy, consistency, detail)
- Project risks are reduced

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How to Utilize BIM?

- There is no single way to utilize BIM
- Methods are dependent on...
 - What building models are available
 - The contents of each building model
 - Target processes that will use the quantities
 - Estimating
 - Scheduling
 - Procurement



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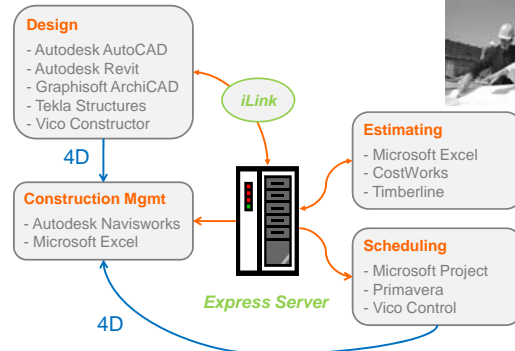
Tocoman's Philosophy

- Customers want to have open solutions
 - Select which applications they use
- Designers will make the building models
 - Contractor's own model is temporary solution
- Requirements for designer's models need to be minimized
 - Requires flexible quantity take-off tools
- Quantities will be produced centrally and used by multiple parties
 - Might be calculated 7-8 times today
- Up-to-date quantities will be available for all project members

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Technical Overview

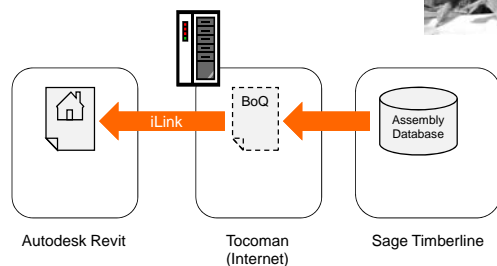


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Demo – Step 1

Importing assemblies from Timberline

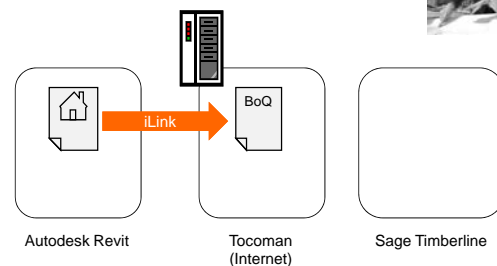


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Demo – Step 2

Quantity take-off from building model



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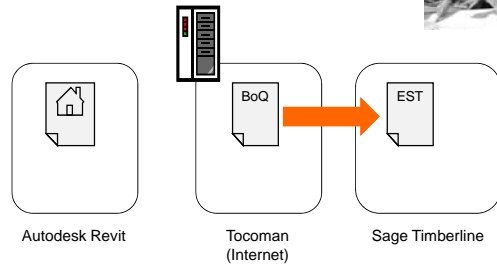
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Demo – Step 3

Creating a cost estimate (bid)

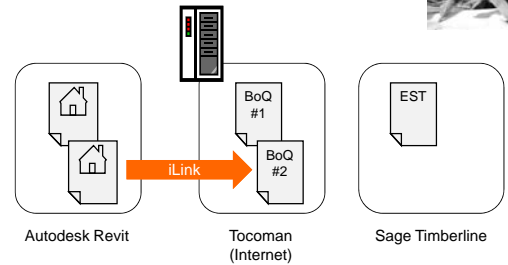


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Demo – Step 4

Changes to the building design

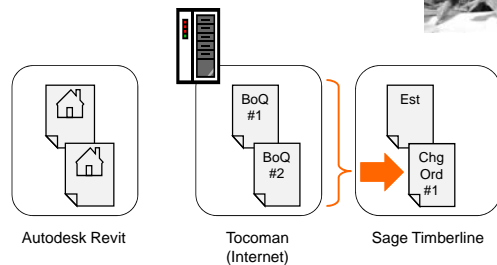


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Demo – Step 5

Analyzing cost changes (change orders)



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Benefits

- Faster quantity take-off
- Improved accuracy
- Transparent process
- Automated management of change orders
- Re-using quantities in multiple tasks
 - Scheduling
 - Procurement
 - Construction Management
- Works with existing applications
- No need to make contractor's model

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Software

Integration with 3rd Party Tools

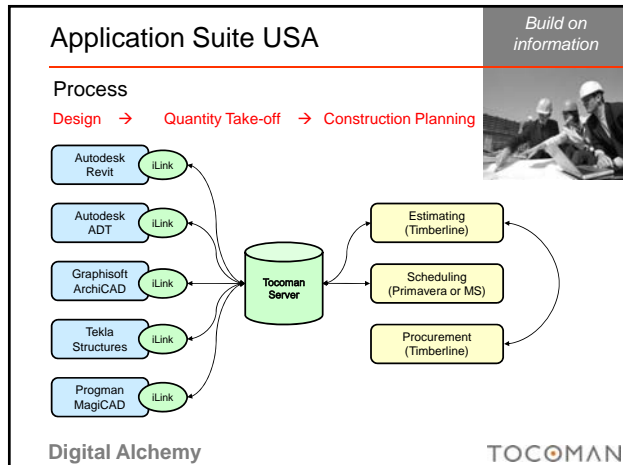
Applications	FIN	SWE	DK	US
COST ESTIMATING				
- Tocoman Products	X			
- Jydacom JD-Kustannuslaskenta	X			
- Artemis CMPPro	X			
- Consultec BidCon		X		
- CodeGroup Sigma			X	
- sbXML (e.g. MAP Kalkyt & Skanska SPIK)		X		
- Stark AktivBygg			X	
- Timberline Precision Estimating				X
- Microsoft Excel	X	X	X	X
SCHEDULING & PROJECT MANAGEMENT				
- Vico Control	X	X	X	X
- Artemis Planet	X		X	
- Consultec PlanCon		X		
- MPX (e.g. MS Project & Primavera)				X

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Tocoman in North America

Build on information

- Tocoman Distributor = Digital Alchemy
www.DigitalAlchemyPro.com
- Applications have been localized for the US market by a local expert
- Development partner with:
Autodesk, Graphisoft, Timberline, and Primavera
- Authorized reseller of RS Means databases
- First projects completed - Accu-Crete (Washington DC)
 - Utilizing ADT models for:
 - Cost estimating
 - Construction estimating

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QUESTIONS?

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