



PD5966 Digital Plant in the Cloud - Cloud Computing for Plant Construction and Operation



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Autodesk
Business Development Plant



Michael Ring
BAYER
Manager CAE & Global Licensing



Class summary & Key learning objectives



You are in the ***right*** class if you want to learn about Business Issues of Cloud and Mobile solutions (and how to sell them internally) and get BAYER's and other customer's viewpoints.



You are in the ***wrong*** class if you want to learn technical stuff about our cloud products (Sorry!).



Agenda

You and the cloud/mobile

Autodesk Cloud and Mobile

Customer viewpoint: BAYER

Business cases (ROI)

- Infinite Computer Power

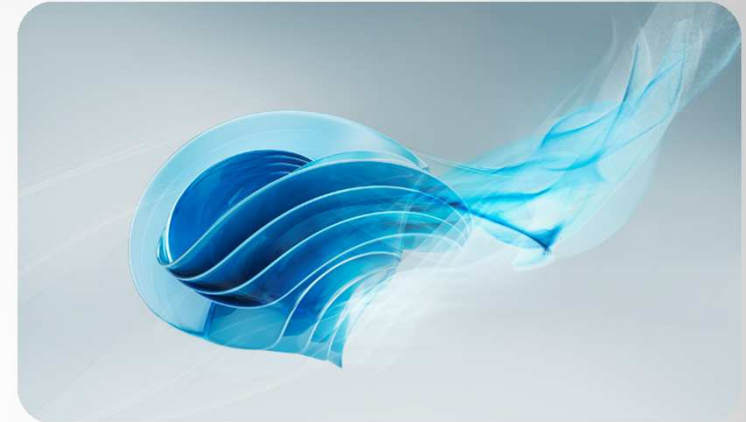
- Accessibility

- Deployment

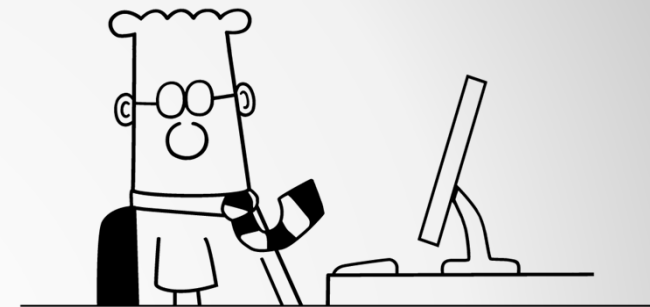
- Workflows

- Mobility

Summary, Q&A



Your experience with Cloud and Mobile computing



(C) dilbert.com

- Do you have implemented Cloud solutions?
- Mobile Solutions?
- If not, what are your obstacles?
- How did you convince your stakeholders?

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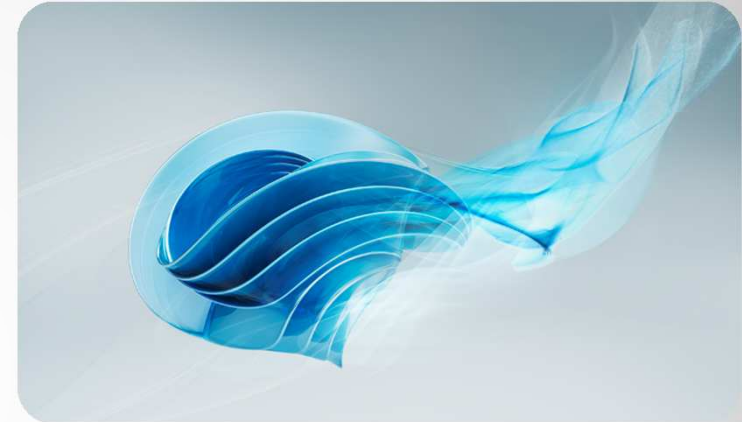
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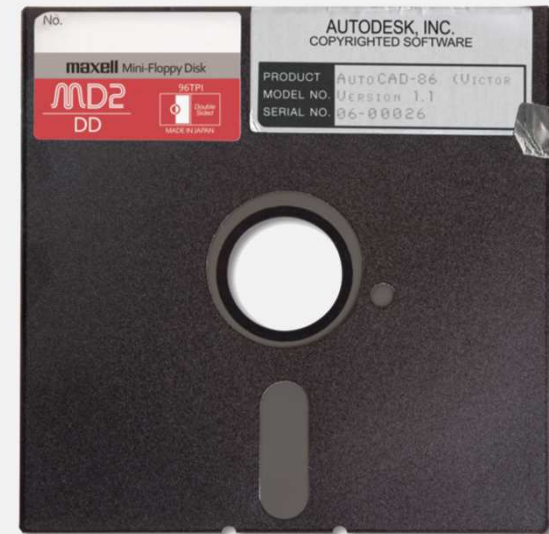
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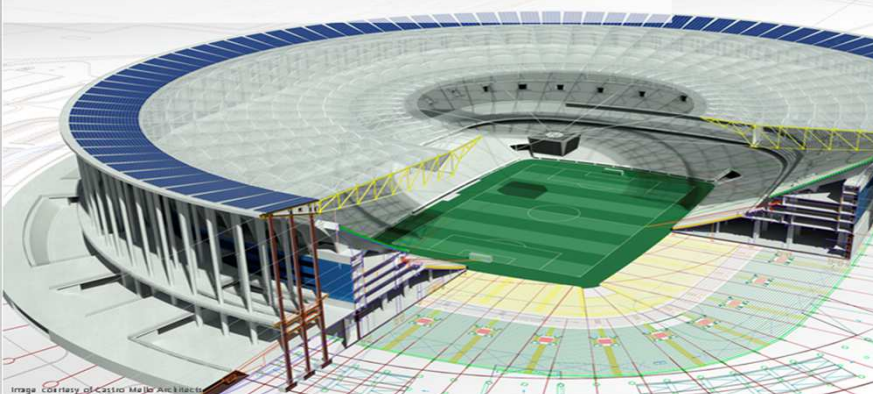
**Autodesk started more than
30 years ago,
with 16 employees and one
software title.**



Supported by the breadth and depth of a leader



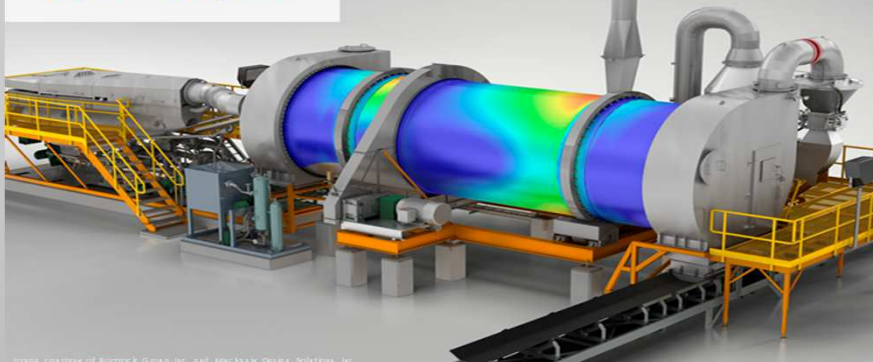
Architecture, Engineering, and Construction



Manufacturing



Digital Prototyping



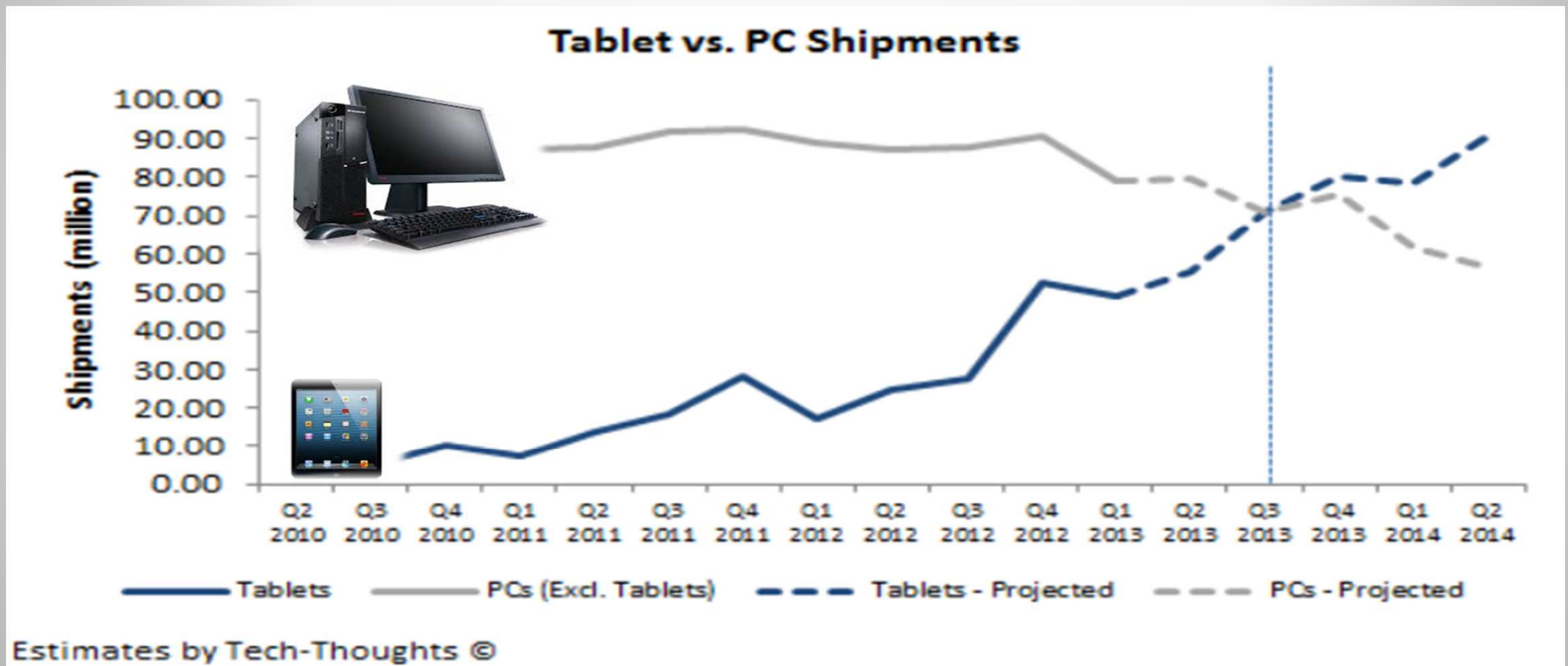
Media & Entertainment



Technology Shift 1982

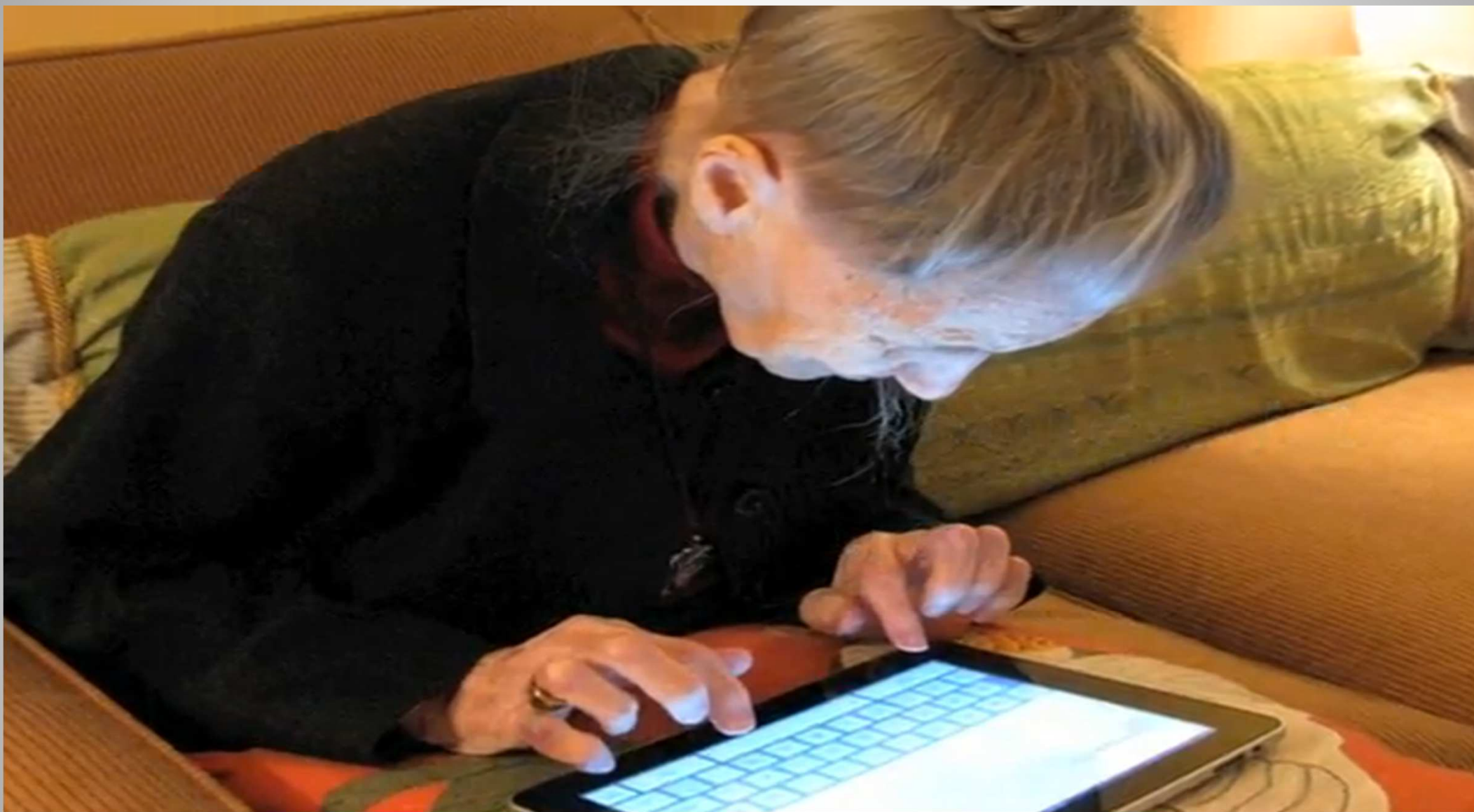


Technology Shift 2013/2014



Autodesk Strategy Shift









FREE

Autodesk® AutoCAD® 360

Extend AutoCAD® software beyond the desktop. Easily view, edit, and share DWG™ and DWT™ files using your mobile device.

GOOGLE PLAY



APP STORE



FREE

Autodesk® 360 Mobile

Share, view, and comment on 2D and 3D DWG, DWT™, Autodesk® Navisworks®, and Autodesk® Revit® software files from your mobile device.

GOOGLE PLAY



APP STORE



FREE

Autodesk® Bluestreak Mobile

Track architecture, engineering, and construction project activities and collaborate on site or at a client meeting.

APP STORE



FREE

Autodesk® Buzzsaw® Mobile

View Revit and Navisworks models and metadata, 2D and 3D DWF files, documents, and images, and upload project photos directly to the Buzzsaw cloud.

GOOGLE PLAY



APP STORE



FREE

Autodesk® BIM 360® Glue Mobile

Access and explore multidisciplinary BIM 360 Glue and Navisworks models online or offline, review intelligent object properties, and take simple measurements.

APP STORE



FREE

Autodesk® BIM 360™ Field Mobile

Create and update issues, reference project documents, and run QA/QC, Safety, and Commissioning checklists anywhere on the job site—online or offline.

APP STORE



FREE

Autodesk® InfraWorks™

View infrastructure project scenarios and collaborate with others while on the go with this free Apple® iPad® app.

APP STORE



FREE

Autodesk® Inventor® Publisher Mobile Viewer

Interactively view animated 3D assembly instructions created with Autodesk® Inventor® Publisher software.

GOOGLE PLAY



APP STORE



FREE

Autodesk® Factory Design Mobile

Autodesk Factory Design Mobile provides rich tools that let you capture your ideas and share them with others, and complements Factory Design Suite.

APP STORE





FREE

Autodesk® ForceEffect™

Analyze design concepts in the field or at the office with a simulation mobile engineering app.

GOOGLE PLAY



APP STORE



FREE

Autodesk® ForceEffect™ Motion™

Develop functional moving mechanical systems right on your mobile device.

GOOGLE PLAY



APP STORE



PAID

Autodesk® ForceEffect™ Flow

Perform accurate 2D fluid flow simulation on your iPad.

APP STORE



FREE

Autodesk® FormIt™

Conceptualize, analyze, and share early building design concepts digitally, anywhere ideas strike.

GOOGLE PLAY



APP STORE



FREE

Autodesk® Configurator 360™ Mobile

Browse a manufacturer's product catalog, configure various product options, and immediately visualize your configuration changes in 3D.

APP STORE



FREE

Autodesk® AEC Feed

Stay up to date on architecture, engineering, and construction industry news, trends, and Autodesk software, and learn about customer stories, product workflow videos, and more at your convenience.

APP STORE





PAID

Autodesk® SketchBook® Pro
Create everything from quick sketches to high-quality artwork with this professional-grade paint and drawing app.

[GOOGLE PLAY](#)[APP STORE](#)

FREE

Instructables®
With over 100,000 tutorials in technology, workshop, living, and more, Instructables offers an extensive collection of do-it-yourself projects.

[GOOGLE PLAY](#)[APP STORE](#)

FREE

Pixlr-o-matic™
Bring a retro vibe to your photos—try different effects, overlays, and borders with this playful darkroom app.

[GOOGLE PLAY](#)[APP STORE](#)

Entertainment



FREE

Autodesk® Socialcam®
Easily take and share videos from your phone.

[GOOGLE PLAY](#)[APP STORE](#)

FREE

Autodesk® TinkerBox™
Create 3D contraptions and solve mechanical riddles with this iPhone/iPod Touch puzzle game.

[APP STORE](#)[APP STORE - IPAD](#)

FREE

Autodesk® Starforce Battlement
Save humanity from annihilation in this 2D tower-defense game built using Autodesk® Scaleform® software for Apple® iPad®.

[APP STORE](#)

Creativity



FREE

Autodesk® 123D® Catch
Take photos with your iPhone or iPad and automatically turn them into 3D models.

[APP STORE](#)

FREE

Autodesk® 123D® Creature
Create fantastic 3D characters. Shape and detail your creature, then print it in 3D or create amazing images in the render room.

[APP STORE](#)

FREE

Autodesk® 123D® Design
Create amazing 3D-printable designs, right on your iPad.

[APP STORE](#)

FREE

Autodesk® 123D® Make Intro
Convert 3D models into 2D build plans with animated assembly instructions.

[APP STORE](#)

FREE

Autodesk® 123D® Sculpt
Use this digital sculpting and painting app to sculpt without getting your hands dirty.

[APP STORE](#)

FREE

Autodesk® Homestyler®
Redesign your home in 3D, and find inspiration, articles, designers, and more.

[GOOGLE PLAY](#)[APP STORE](#)

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Autodesk Cloud and Mobile

Customer viewpoint: BAYER

Business cases (ROI)

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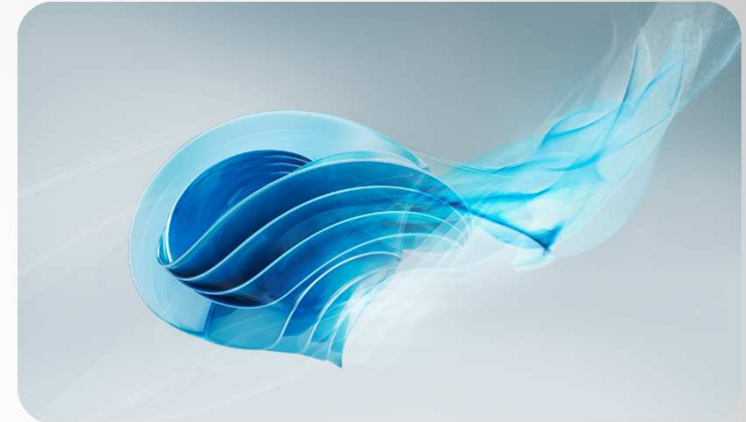
- Accessibility

- Deployment

- Workflows

- Mobility

Summary, Q&A



**For the Bayer
slides, please see
the separate slide
deck**



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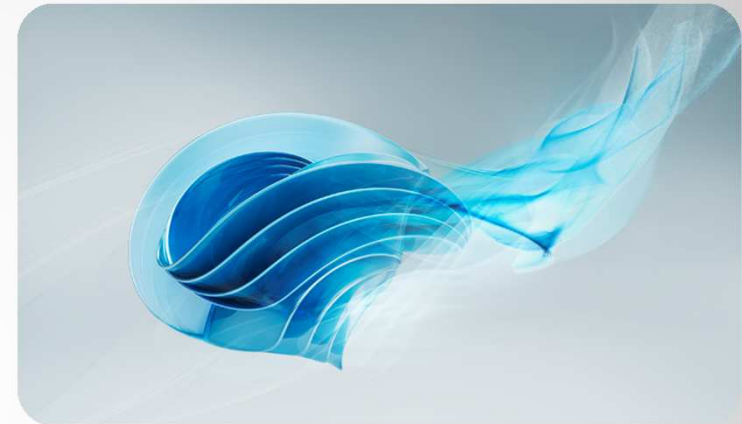
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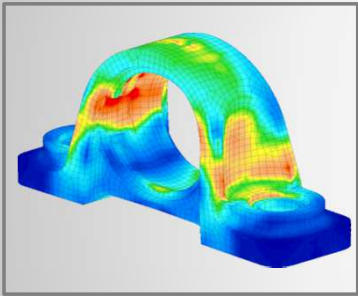
Mobility

Summary, Q&A

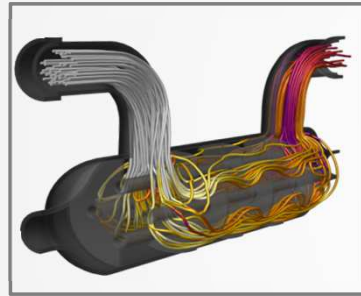


Simulation

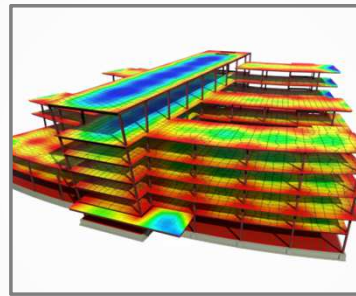
Autodesk Simulation (Digital Prototyping)



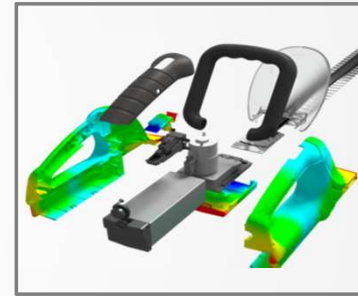
Mechanical



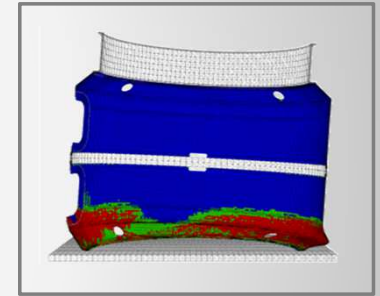
**Computational
Fluid Dynamics**



Structural

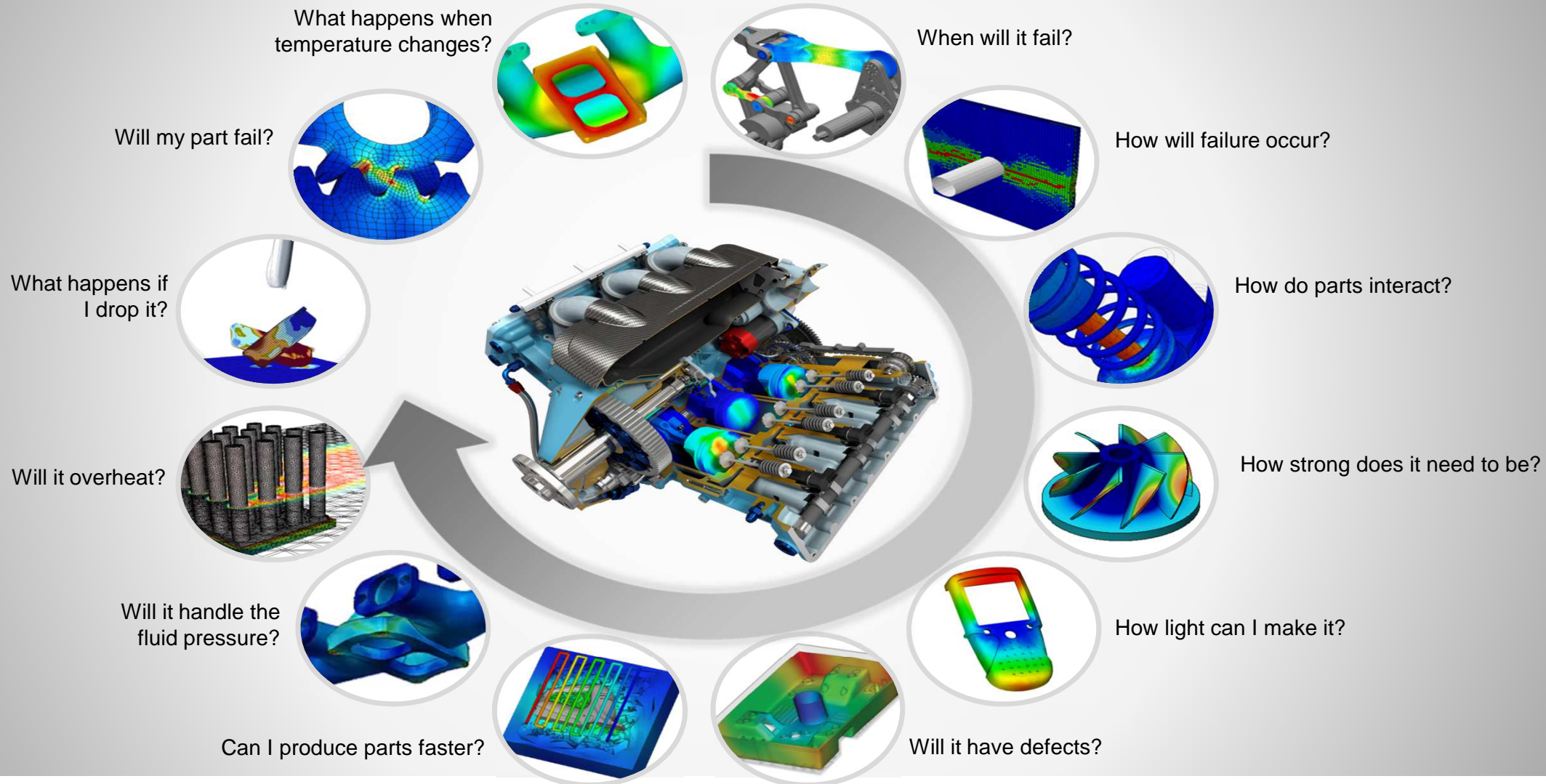


Plastics



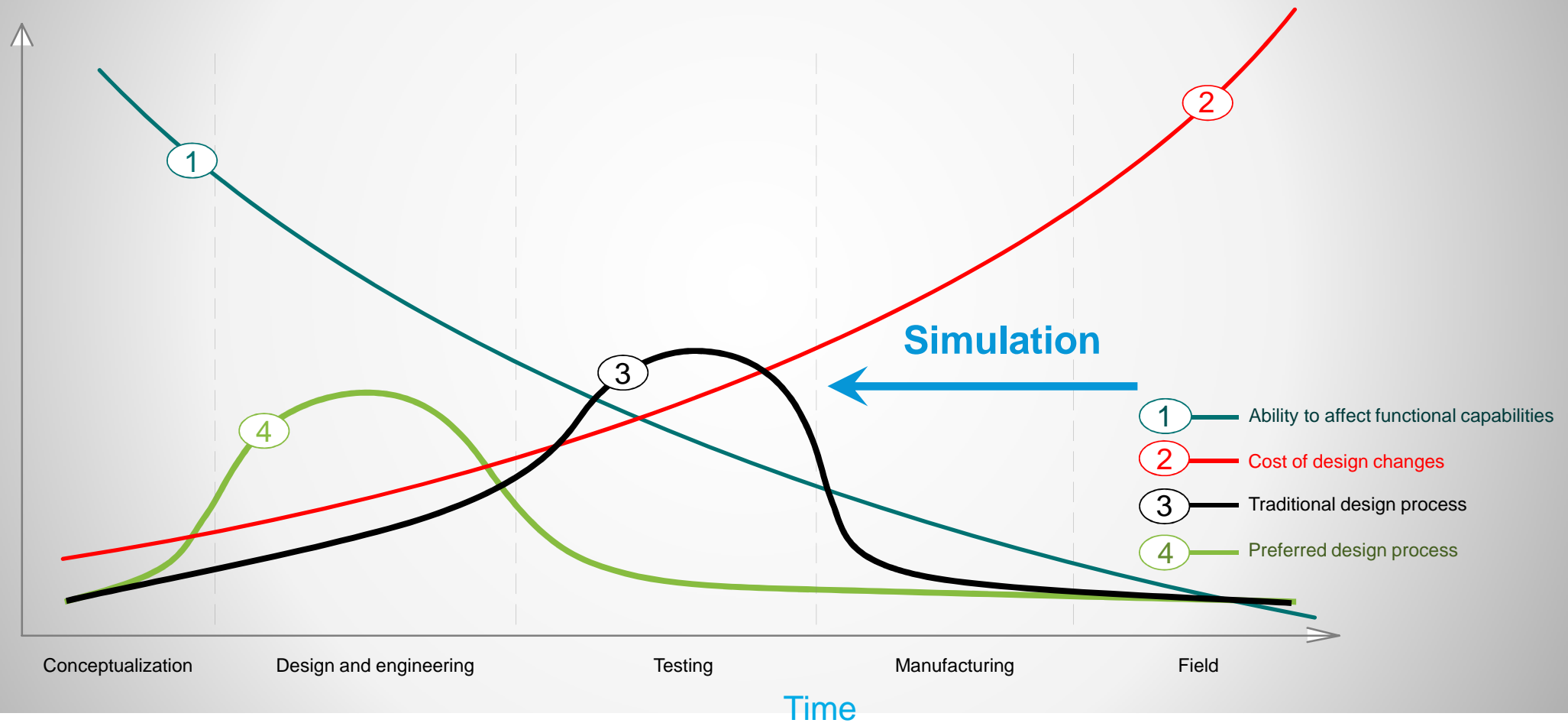
Composites

Autodesk Simulation



Simulation early and often

Changing your process effectively



Infinite Computing Power in the Cloud



Desktop

Solve – Scenario 1



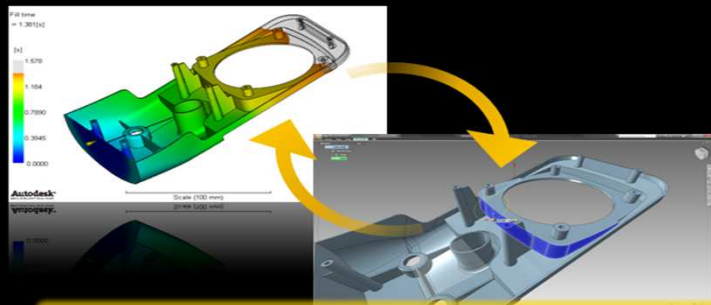
Cloud



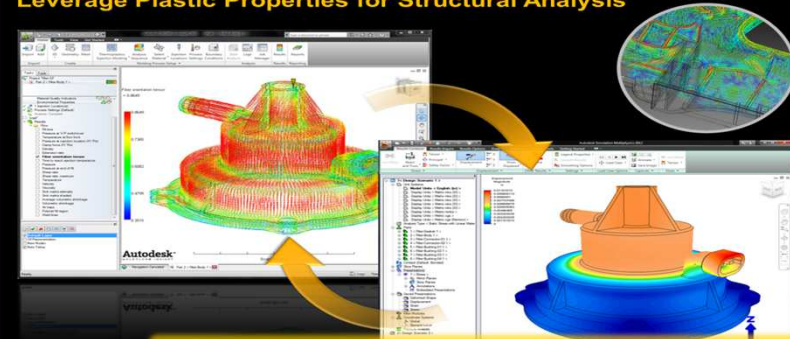
Part of the process

Connecting solutions to maximize impact

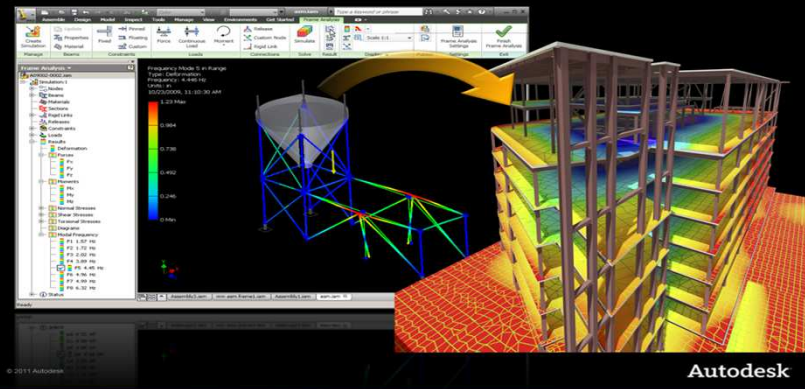
Autodesk Inventor Fusion Interoperability Optimize Any Design for Manufacturability or Performance



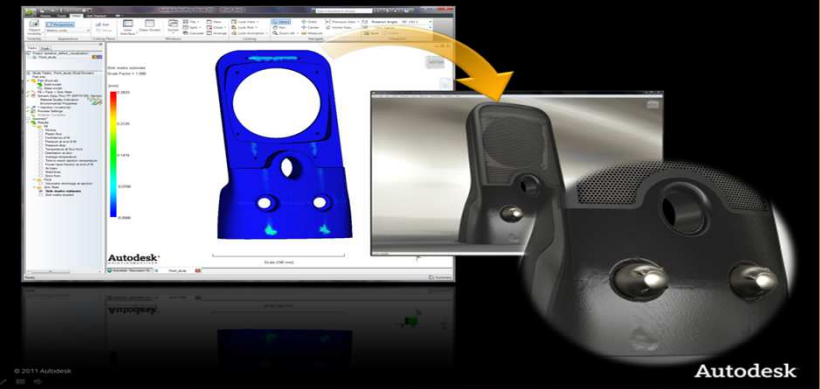
Close the Loop On Product Performance Leverage Plastic Properties for Structural Analysis



Early Stage Results, Backend Due Diligence Frame Analysis Combined with Steel Code Checking



Insight into Your Manufactured Product Visualizing Sink Marks & Warpage



Where is the money?



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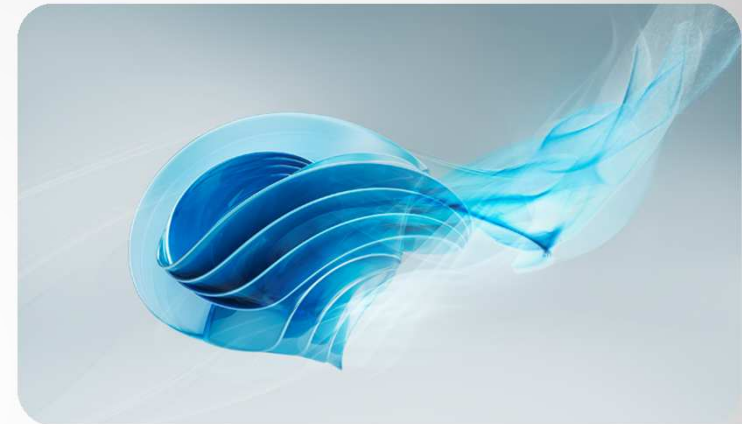
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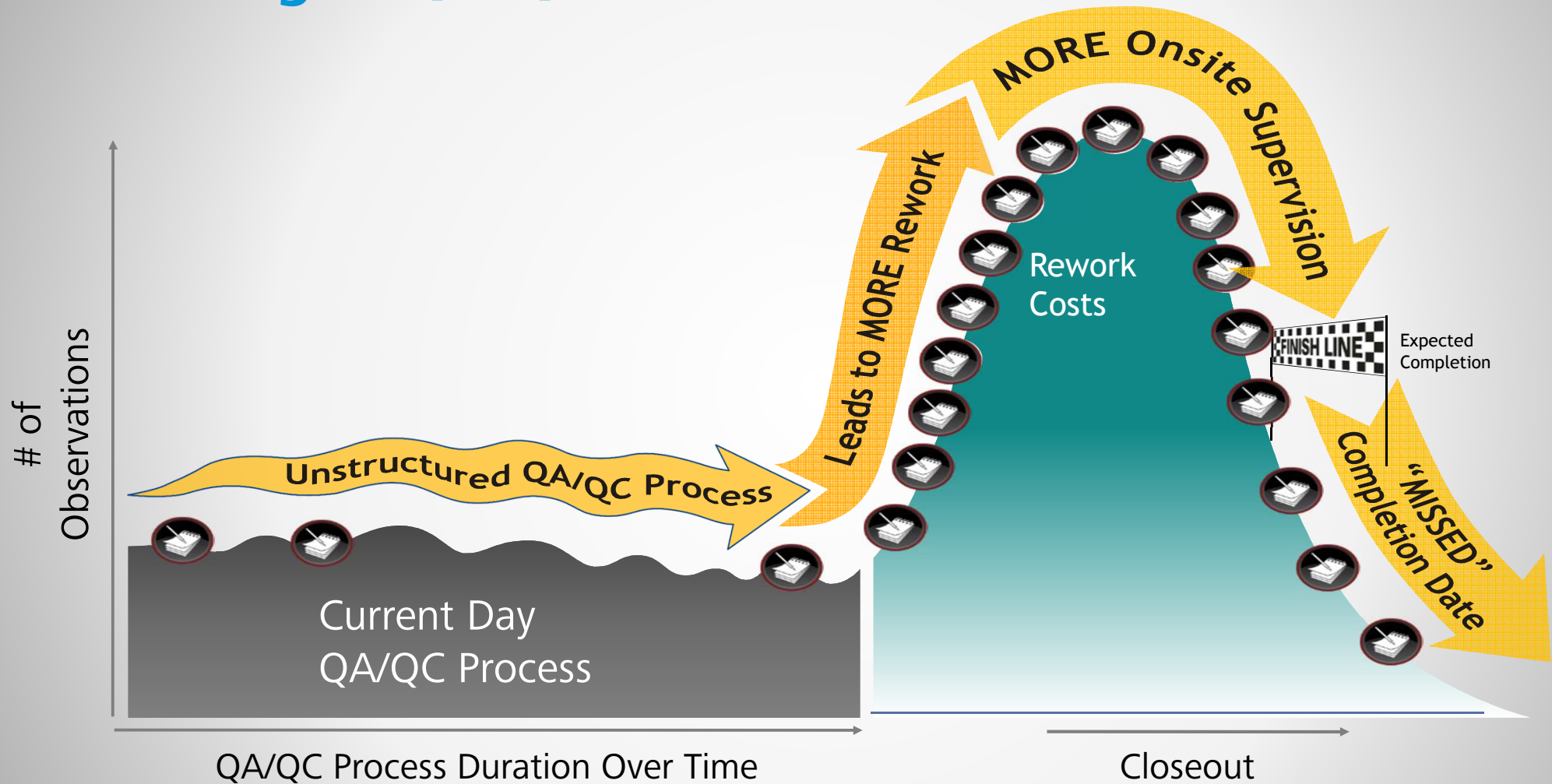
Summary, Q&A



Field Management...*Everywhere*



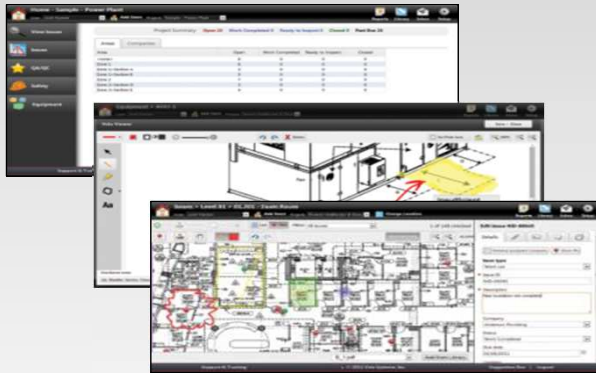
Un-managed QA/QC



Field Management Solution BIM 360 Field



Web



- Web-based-accessible on any device
- Available to contractor, subcontractors, owners, architects

Reports



- Web-based-Accessible on any device
- Real-time data – dashboards & email with drill-down capabilities

Mobile



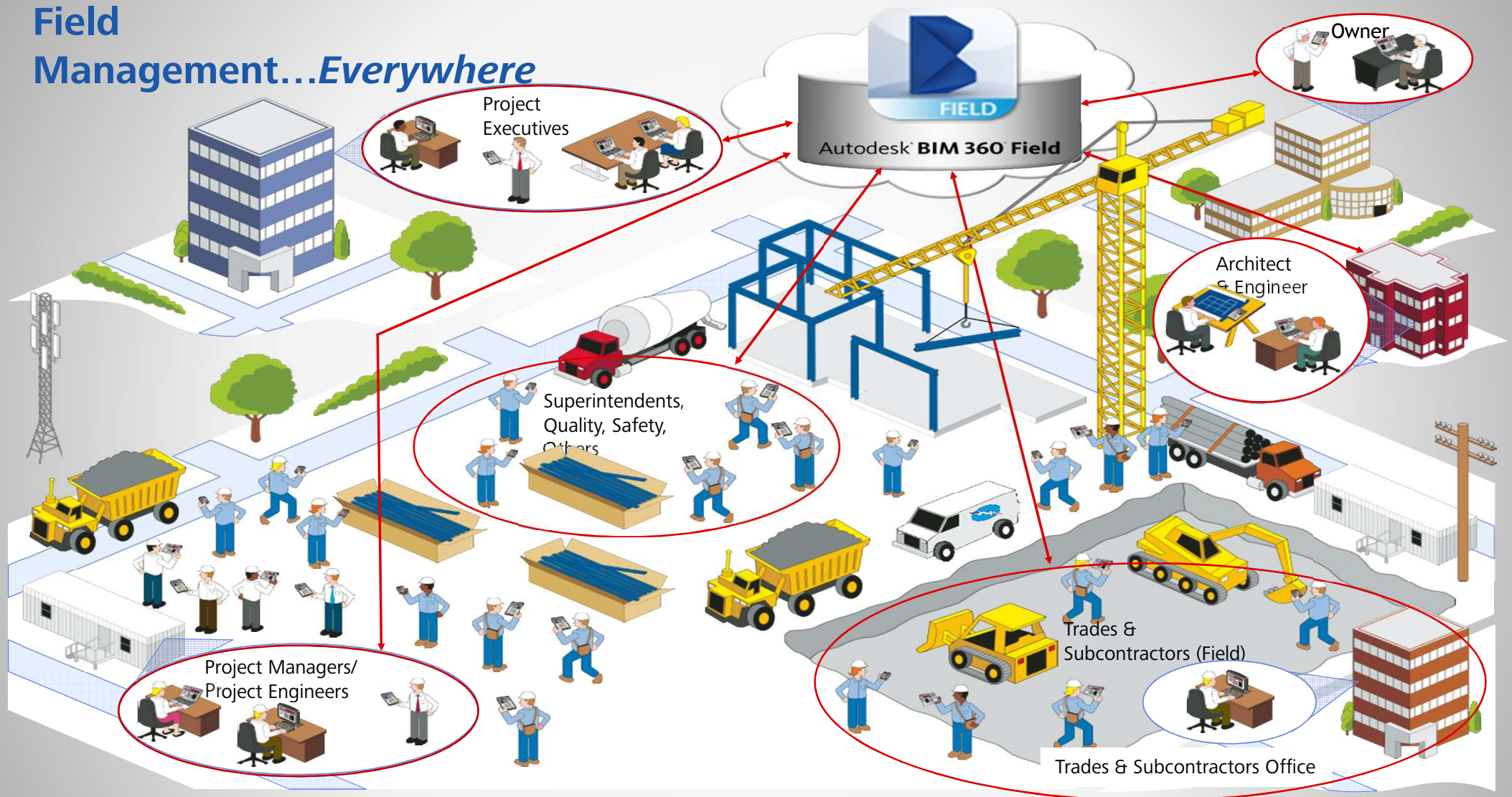
- iPad application, phone – and email
- Syncs with BIM 360 Field Web data
- NO connectivity required

Field BIM™



- Includes Field BIM-Data & -Interactive
- Supports iPad viewing of BIM models & object data online

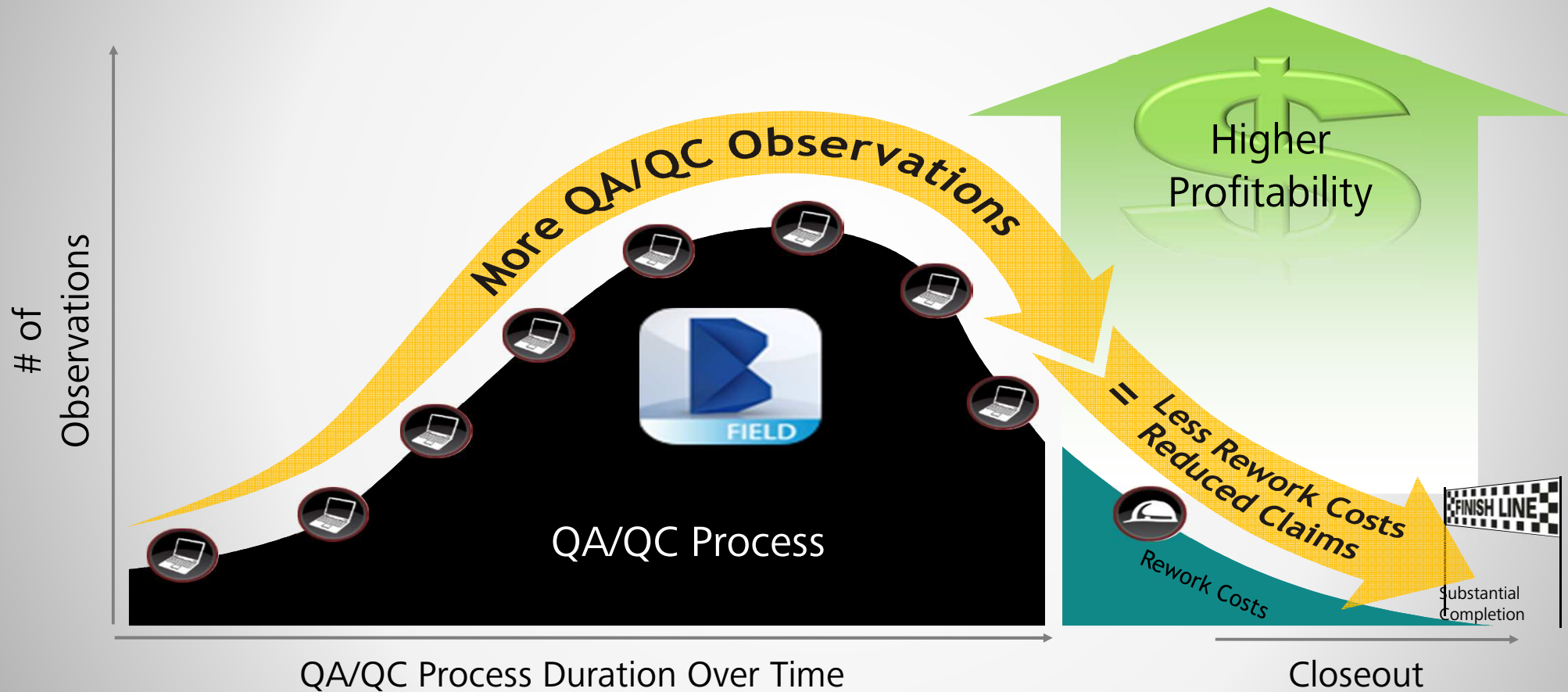
Field Management...*Everywhere*



BIM 360: Minimizing your risk in key areas



Structured QA/QC



BIM 360: Customer Metrics

"9.1 Hours/User/Week of time savings"

"Saved 1.2 hrs. per issue"

SKANSKA

"Concrete Layout Prep 88% faster"

CLAYCO

"Prevented 1200 Clashes"

"Advanced Project Schedule by 25%"

NAVIGANT

**Barton
■ Malow**

BOND



Where is the money?



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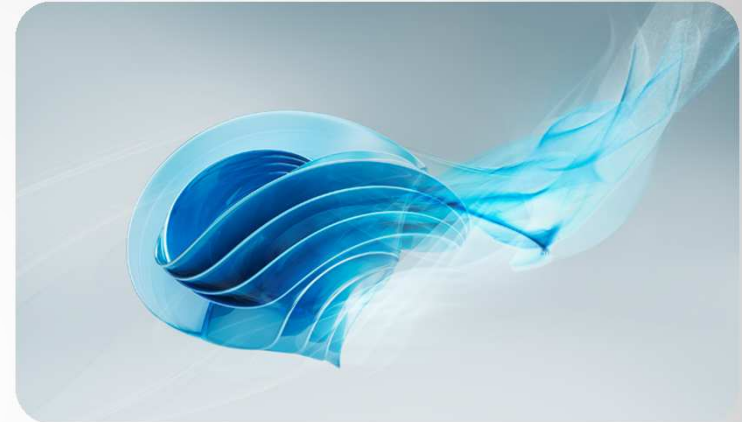
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Summary, Q&A



Head of IT Department

„Sorry, Reiner, during the next 6-8 weeks we cannot make an appointment, we are rolling out the new Windows version...”

The next generation alternative...



Cloud-based,
zero deployment



Accessible
on any device



Up and running in
minutes, not months

PLM Solution

Autodesk PLM 360

- Instant On!
- Highly Current User Experience.
- Ubiquitous Access.
- Pre-Installed Apps.
- Insanely Configurable.
- Integrated.
- Subscription based.



Apps for Everyone



Program Management

- Project Management
- Project Costing
- New Product Introduction
- Tasks
- Requirements



Engineering

- Items and BOMs
- Change Request
- Change Orders
- Material Specifications
- Design Review



Supply & Procurement

- Suppliers
- RFQ
- RFQ Projects
- Warranty Recovery



Quality

- Inspections
- Non Conformances
- Corrective / Preventative Actions
- Audits
- Procedures, Guidelines, & Specs
- Document Change Order



Operations

- Accident Reports
- Calibration
- Equipment Maintenance



Sales & Marketing

- Customers
- Sales Quotes
- Marketing Assets



Service & Support

- Service Request
- Return Merchandise Authorization



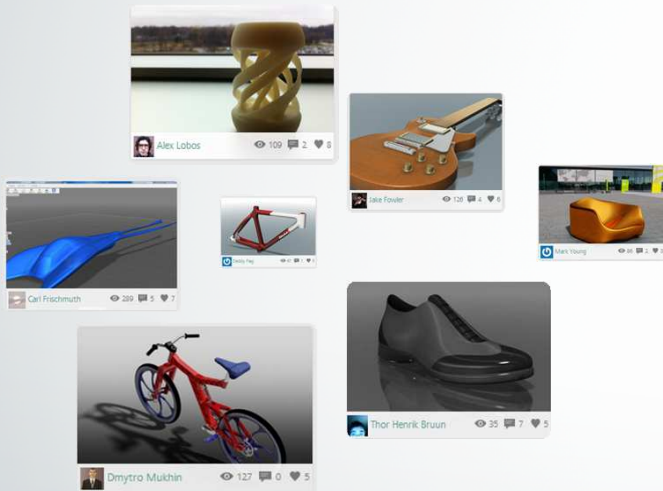
Classification & Reference

- Approval Lists
- ISO9001 Sections
- Material Properties
- Inspection Templates
- Item Categories
- Calibration Providers

CAD Solutions in the cloud

Autodesk Fusion 360 and AutoCAD 360

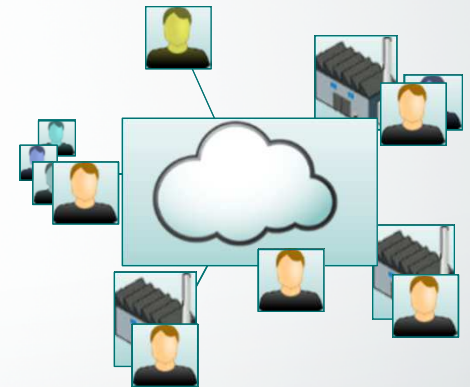
DESIGN DIFFERENTLY



**Iterate & Design
Faster**

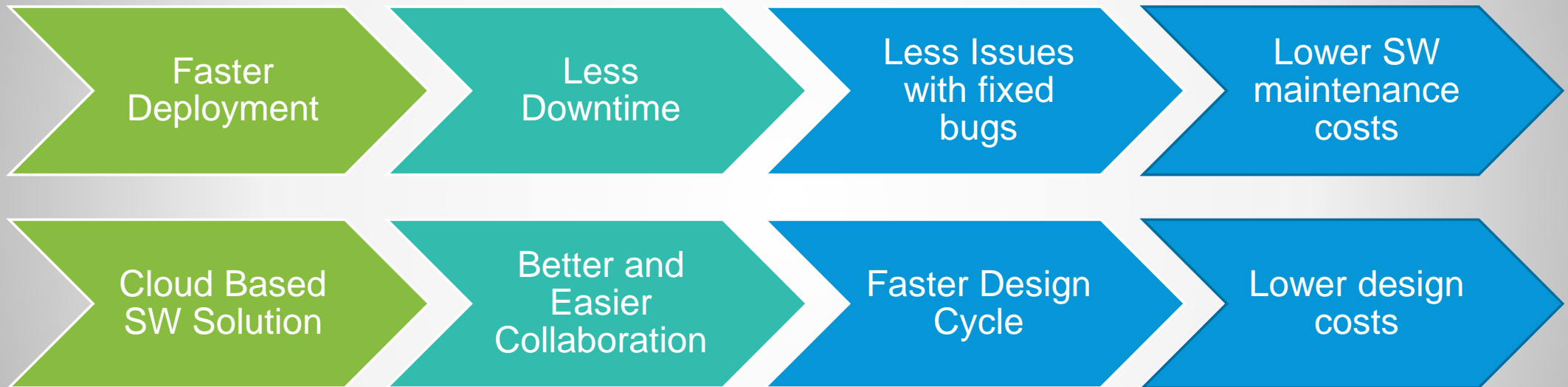


Work Anywhere



Share with Anyone

Where is the money?



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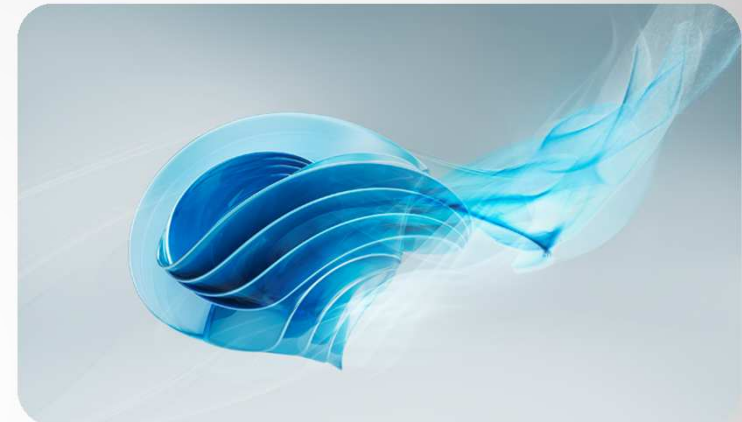
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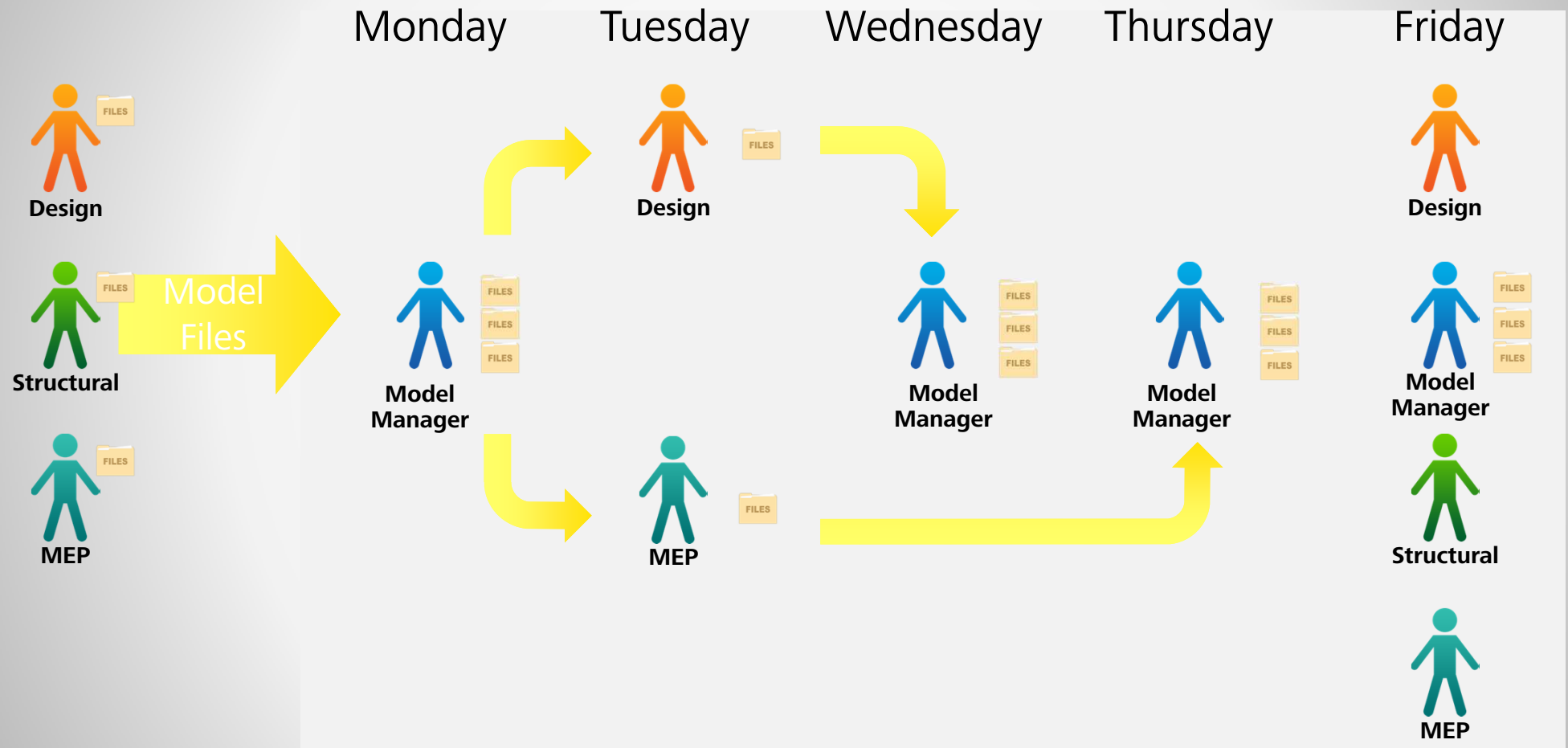
Workflows

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Summary, Q&A



A Typical Week in a Coordination Process



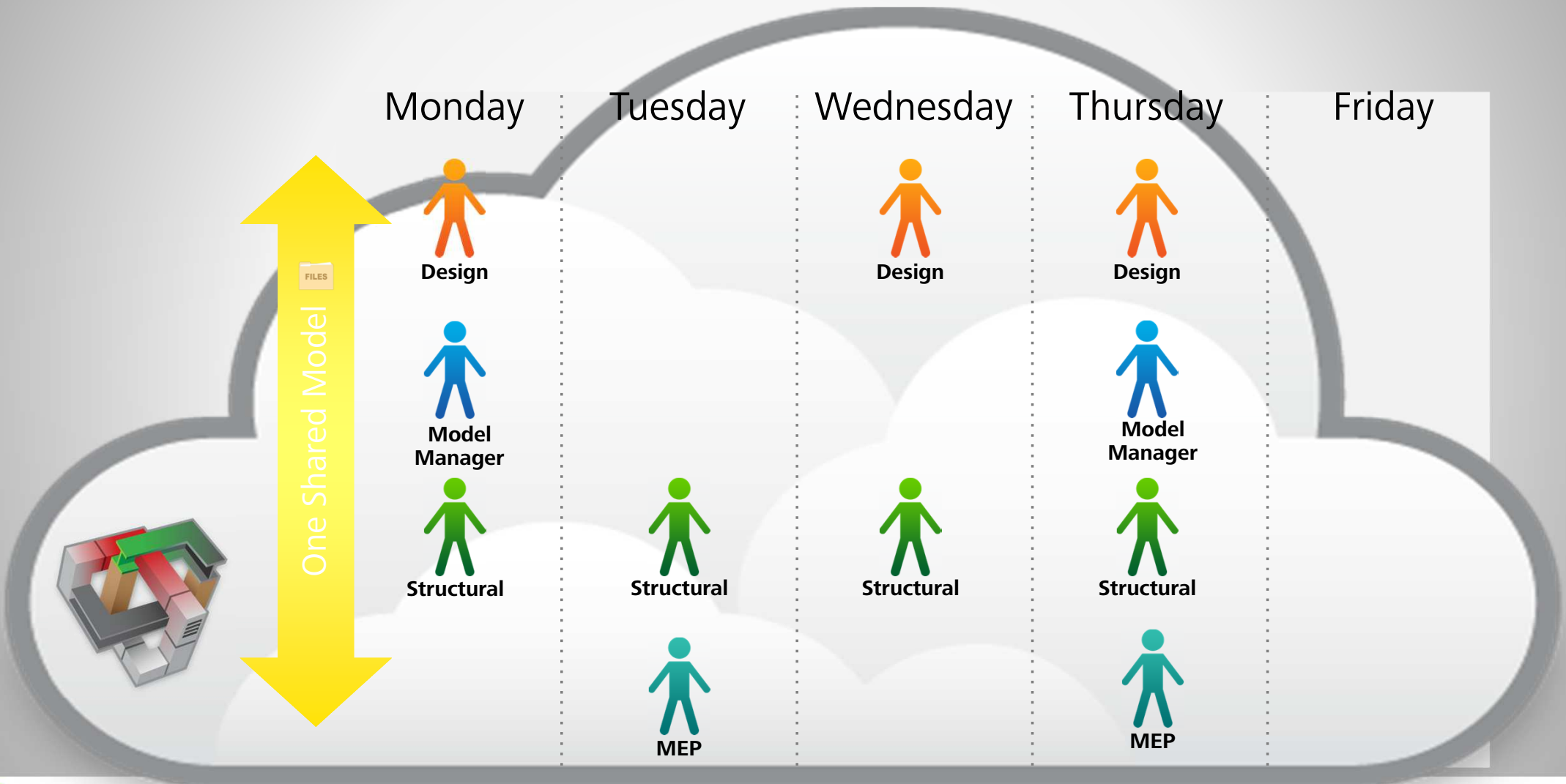
Collaboration Platform

Autodesk BIM 360 glue

- Support multiple design application formats
- Help simplify workflows across the team
- One-click Access
- Collision Detection
- Mobile Devices



A Week in a Glue-Enabled Coordination Process



Where is the money?



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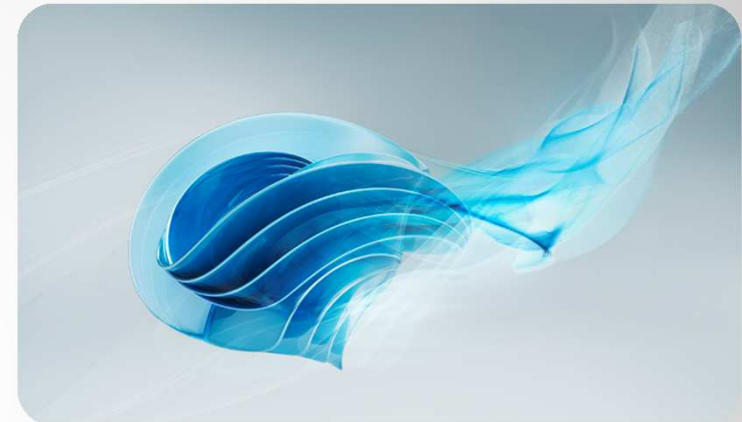
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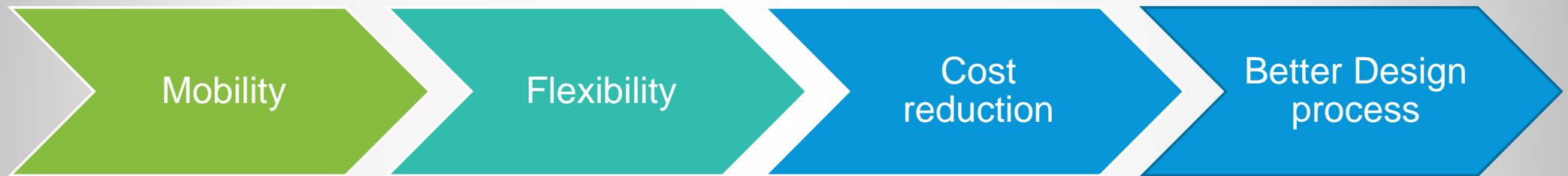
Summary, Q&A



Using Mobile phone for Reality Capture Autodesk® ReCap™



Where is the money?



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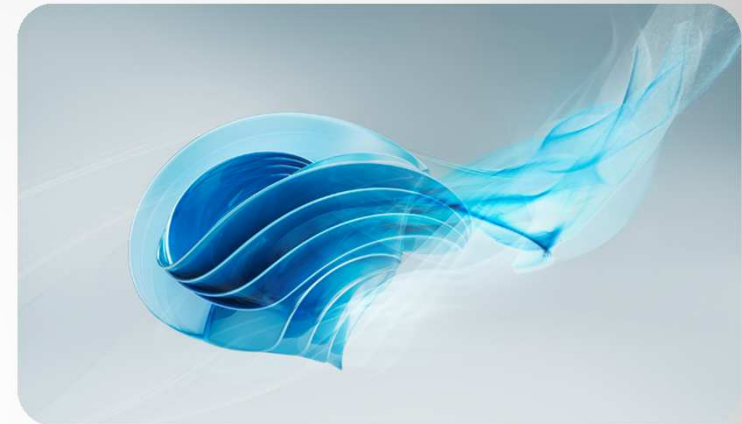
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Agenda insert: SECURITY



Who knows this guy?

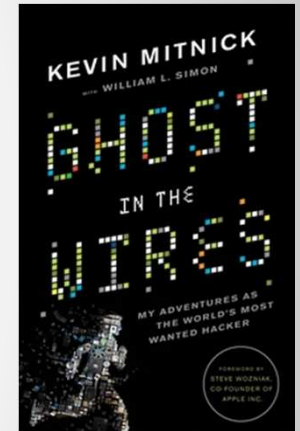


Kevin Mitnick

FREE KEVIN



- Hacker name „Condor“
- Hacked US ministry of defense and NSA
- On FBI most wanted list
- Spent 5 yrs in prison (1995) – „Free Kevin“
- 2011 Book: „Ghost in the wires“
- Mitnick Security Consulting, LLC - „Defense Thinking“



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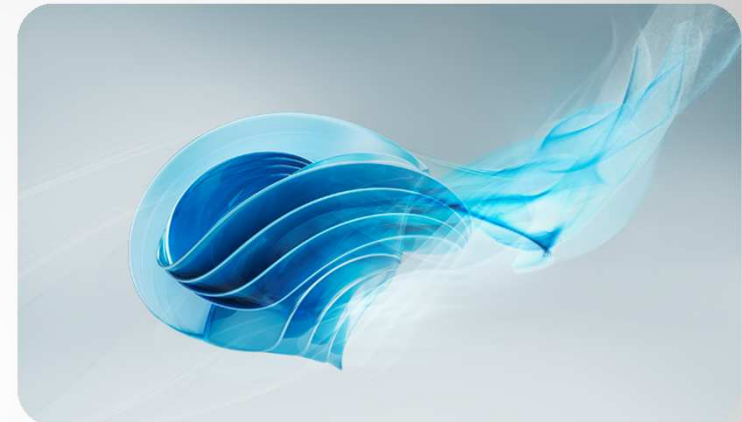
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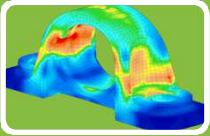
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Mobility

Summary, Q&A



Summary



Earlier decision making through Infinite Computer Power



Mobile data access enables continuously QA/QS process for cost reduction



Cloud based design review platform enables parallel workflow



Software cloud deployment reduces administration time and effort and enables easier collaboration



Usage of smart phones enables flexible 3D data capture



Q&A and comments



Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2014 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time





Additional information links

- Autodesk Mobile Apps:
<http://www.autodesk.com/mobile-apps>
- Autodesk Simulation:
<http://www.autodesk.de/products/simulation/overview>
- Autodesk BIM 360 Glue („Navisworks in der cloud“):
<http://www.autodesk.com/products/bim-360-glue/overview>
<https://www.youtube.com/playlist?list=PL71F6A665981BE491>
- Autodesk BIM 360 Field (Baustellenmanagement):
<http://www.autodesk.com/products/bim-360-field/overview>
- Autodesk PLM 360:
<http://www.autodeskplm360.de/> <https://www.youtube.com/user/AutodeskPLM360>
- Autodesk ReCap:
<http://recap.autodesk.com/>

