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Make anything.

Let's get Ukulele!

Paolo Galli

BIM Implementation Consultant - Architecture

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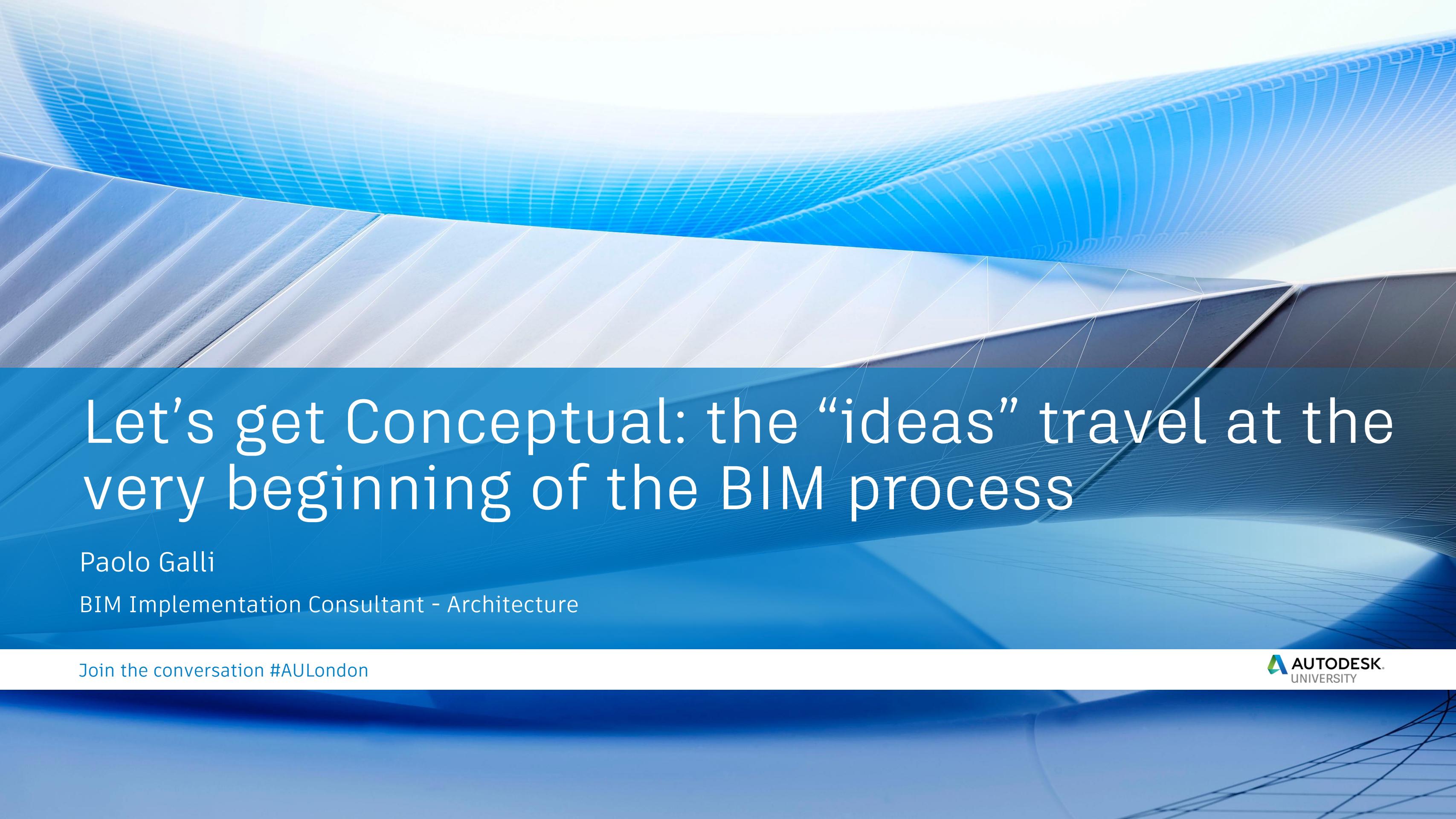
Let's get Conceptual: the “ideas” travel at the very beginning of the BIM process

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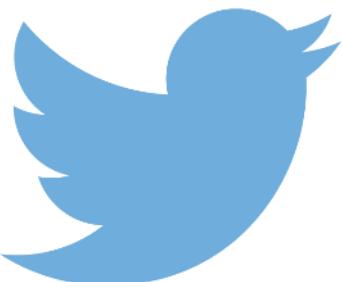
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Agenda

- Introduction
- The Travel of Ideas!
- The CDP Framework
- Class Outline and Technical Content

Let's start...

- Log-in your Autodesk Account
- Switch off your mobile phones, you'll be mine for the next 90 minutes
- Ok, you can just mute them
- During the session, don't use Facebook, Twitter or other social network unless you want to comment how great is this class
- **Enjoy the travel of ideas and let's get conceptual!**



Paolo Galli

- 5 Years with Autodesk
- 12 Years implementing BIM and Revit in engineering and architectural firms

Key competencies

BIM implementations
Solution shaping and vision setup
Coordination and supervision of technical activities
Procedures, Standard and Documentation development for BIM Implementations
Conceptual Design / Software Interoperability

Key focus areas within Autodesk Consulting

BIM management and implementation
Support for Business Development activities
Solution Offering Support and Development - Architecture
Associated Customer Success Manager for Italy and Spain

Master in Architecture - University of Roma Tre

Also Studied at Universitat Politecnica de Catalunya

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...what about you? | Raise your hands



Revit

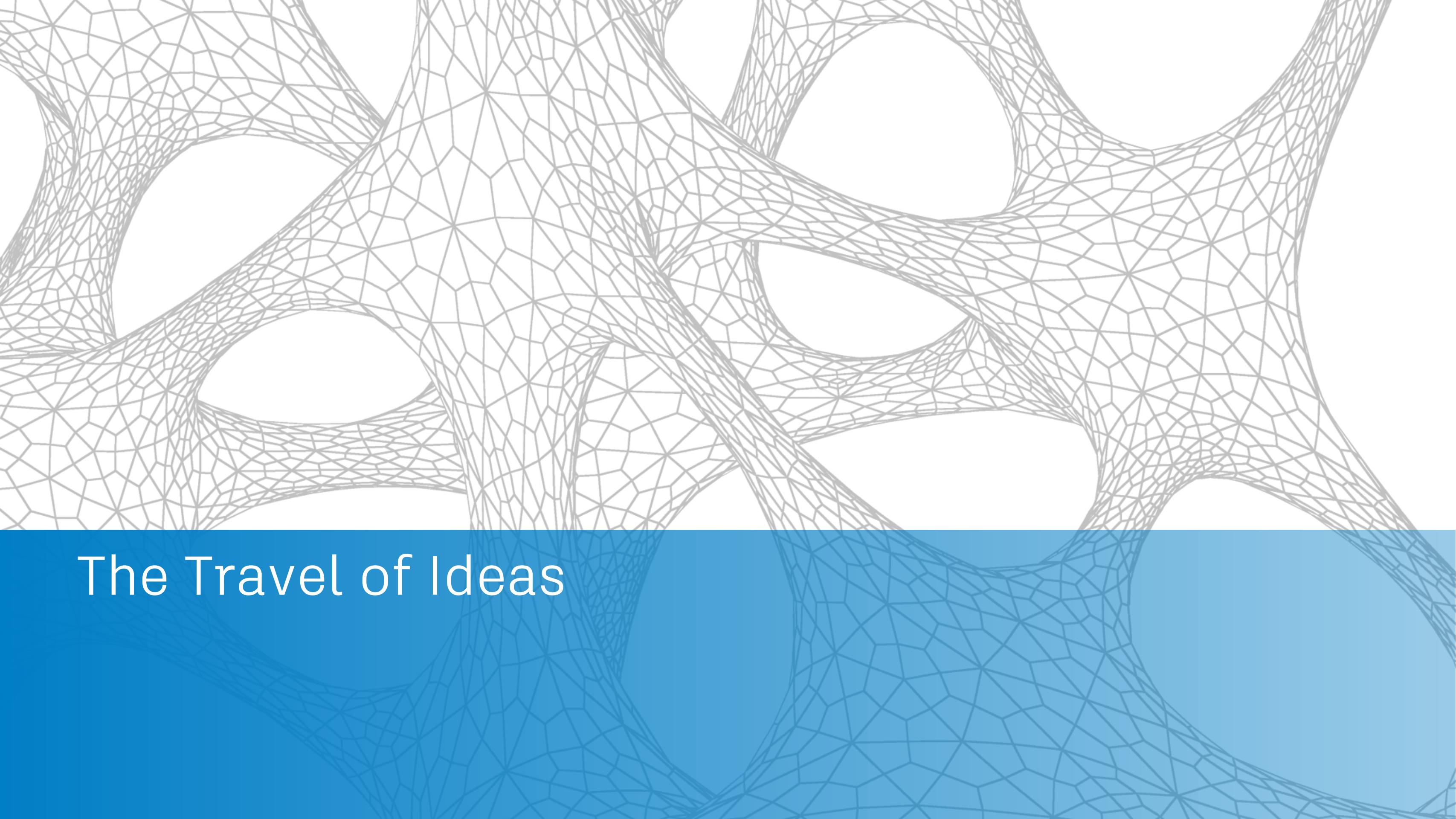
- How many have already used Formit?
- How many are experienced on Revit modeling?
- Revit Massing?
- Have you even seen Fusion 360?



Formit



Fusion 360

The background features a complex, organic geometric pattern composed of numerous thin, light gray lines forming a mesh of triangles and irregular polygons. This pattern is set against a solid white background. A solid blue rectangular area is overlaid on the bottom half of the image, extending from approximately y=630 to y=1000. The text is positioned within this blue area.

The Travel of Ideas

CONCEPTUAL

IDEAS

INTENT

SCENARIOS

OUT OF THE BOX

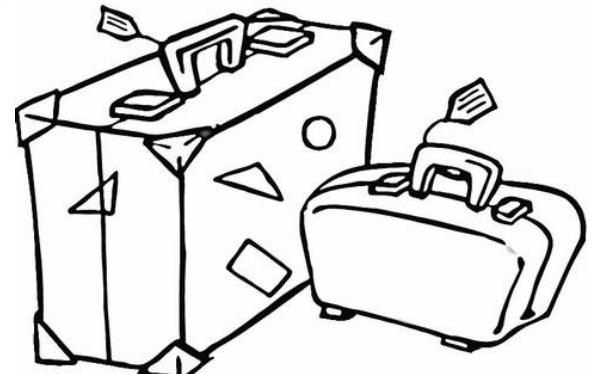
ITERATION

RE-USE

STRUCTURED
VS
FLEXIBLE

The Travel of Ideas | Key learnings

- Understand the specific features and challenges of the conceptual design stage
- Identify the design intent and the related set of scenarios
- Use a conceptual model to perform energy analysis and other kinds of checks
- Conceptual design phase configuration using the “gears” approach
- Understand how to create BIM models for downstream uses



Conceptual Design (main) Components

Model Authoring

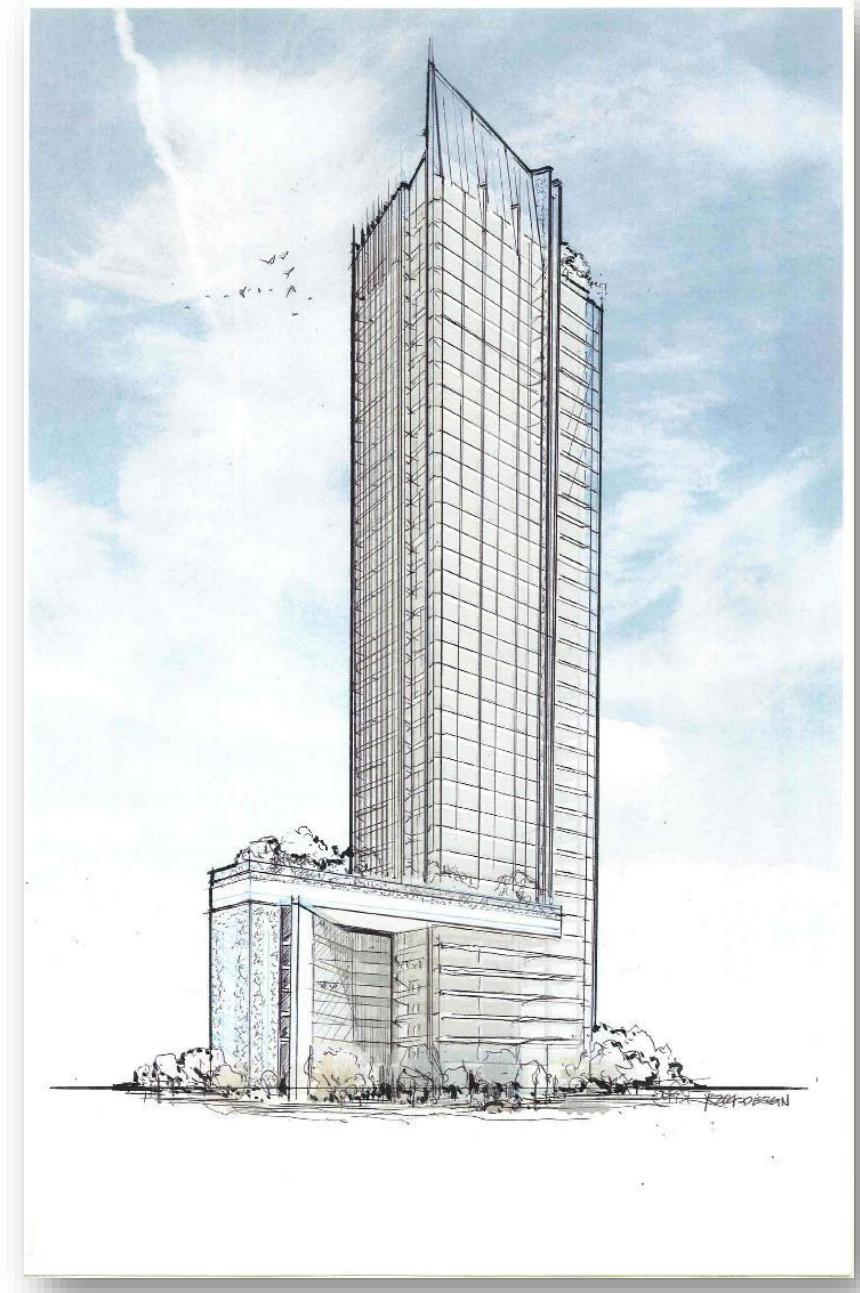
- *Supports the design intent definition*
- *Helps describing model the different scenarios with a digital information model*

Digital Analysis

- *Fosters communication and collaboration throughout the members of the design team*
- *Streamlines the design review activities by means the use of an information models set*
- *Allows to use the models for downstream uses and further development*

Visualization

- *Allows to visualize and represent the design intent in a quick and effective way*



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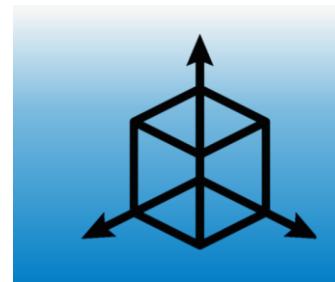
CDP – Conceptual Design Process |

| Key Benefits

Key Values and Benefits



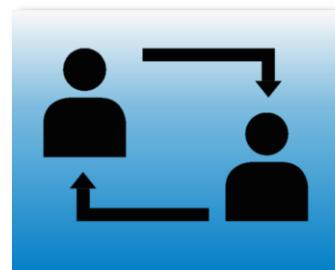
Work smarter with BIM-based conceptual design



Create design concepts with intuitive tools



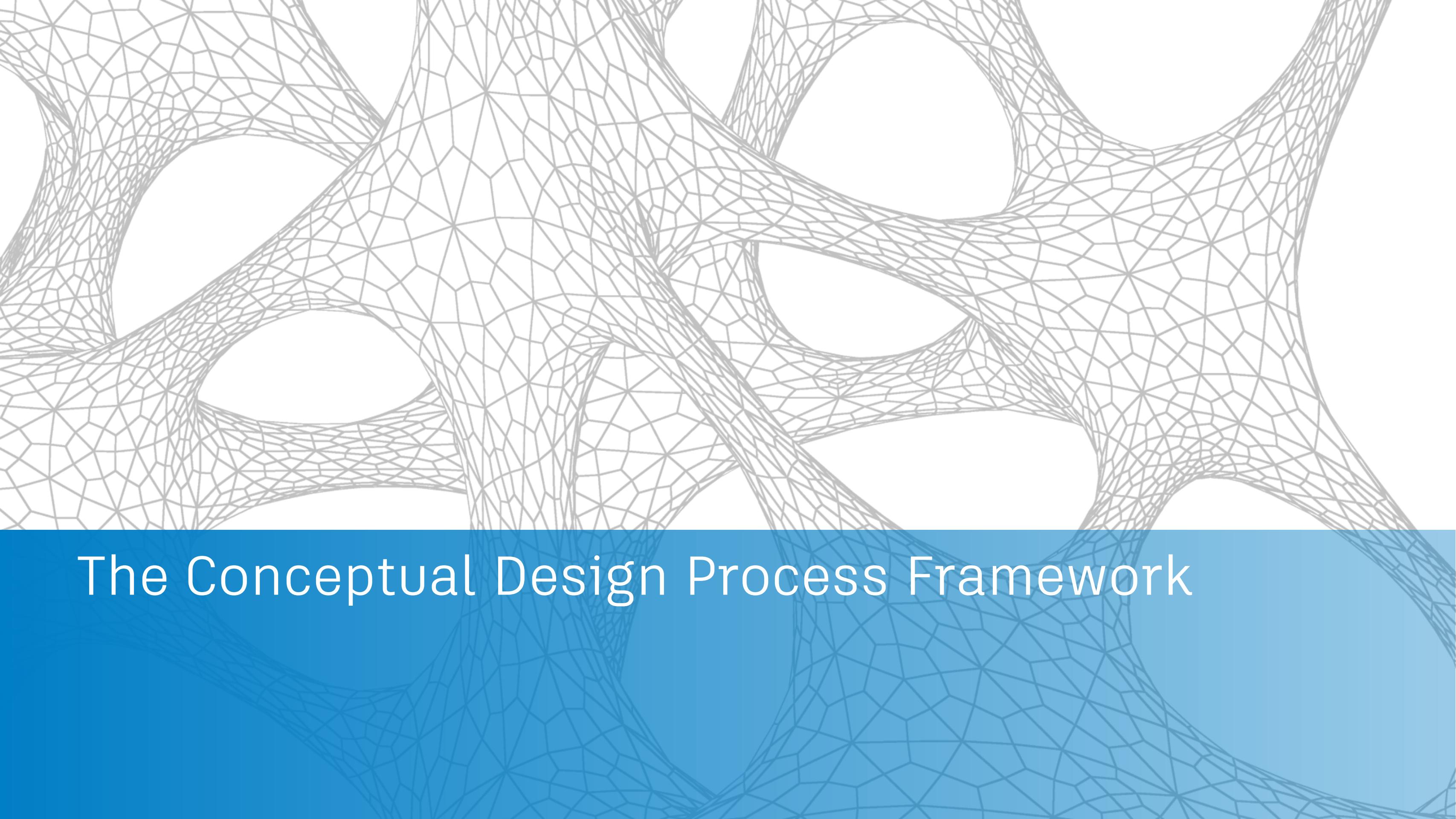
Analyze your designs earlier than ever



Sketch and Collaborate in 3D anywhere, anytime



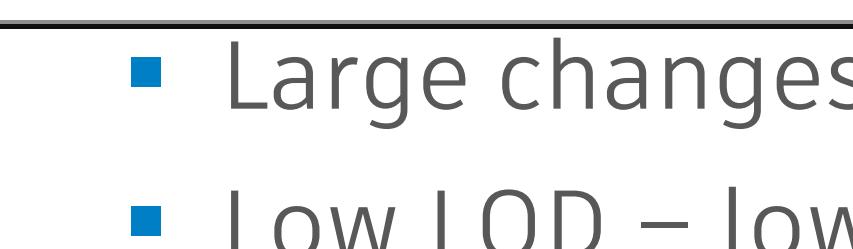
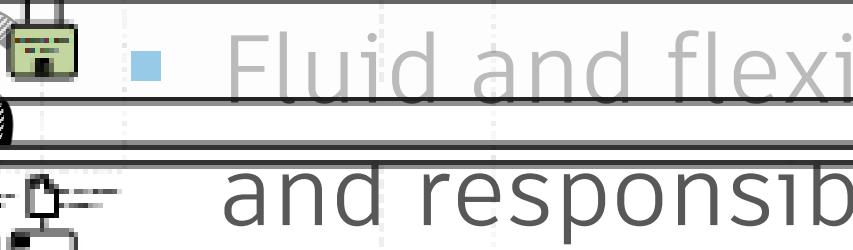
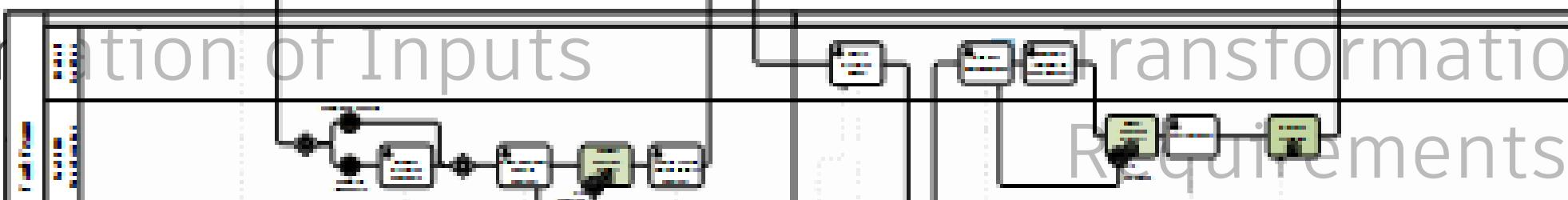
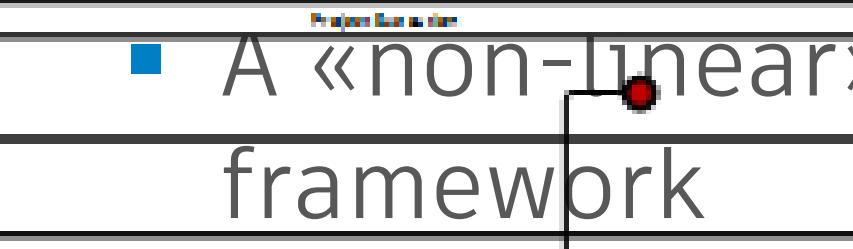
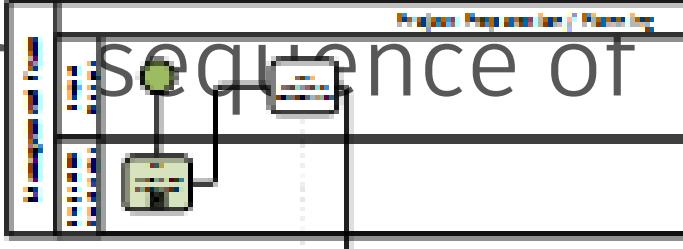
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The Conceptual Design Process Framework

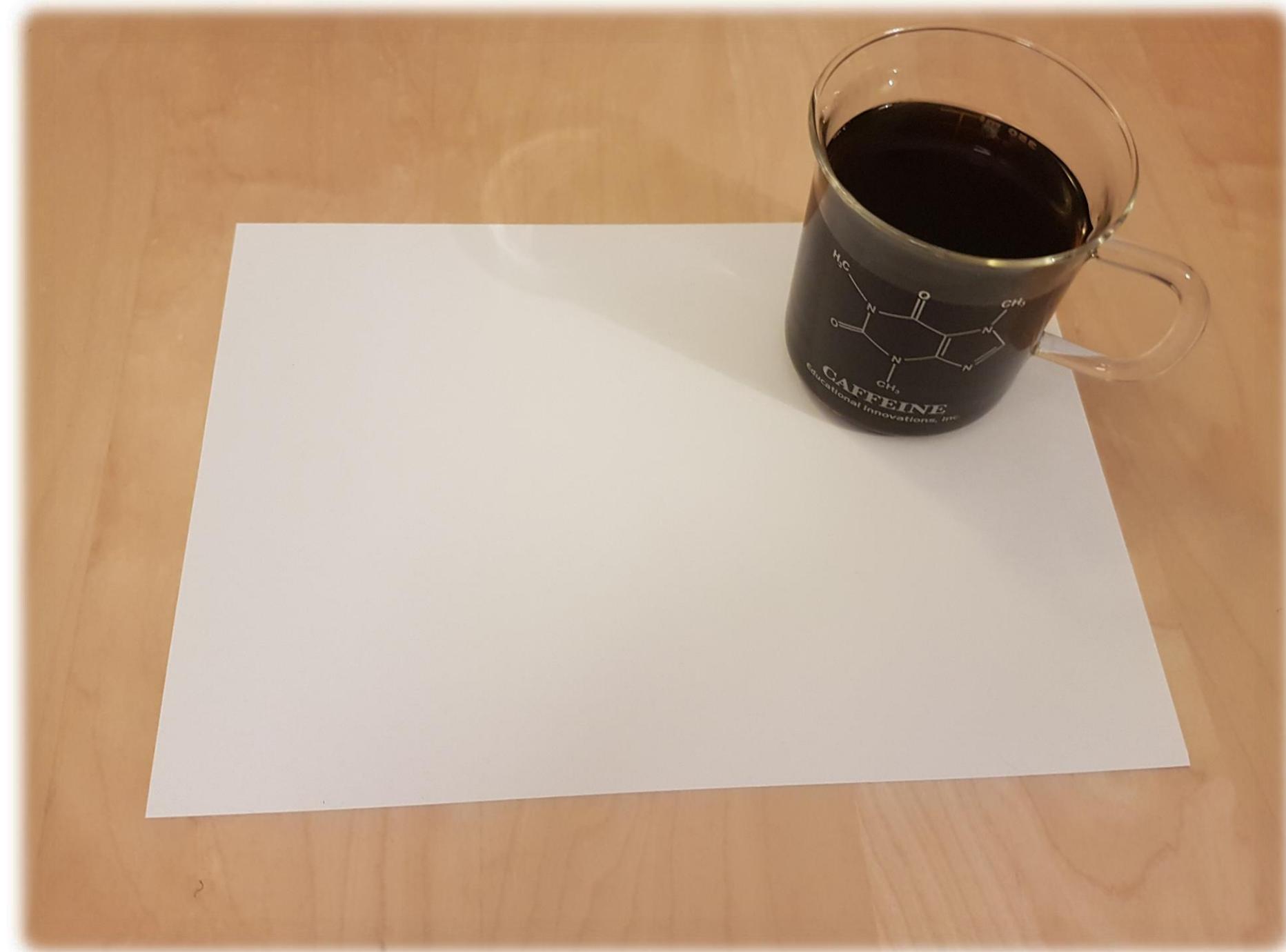
Typical BIM Use Process vs CDP

- A «linear» sequence of tasks
- Transformation of Inputs to Outputs
- Clear roles and responsibilities definition
- Based on an **existing** design
- Little changes allowed
- High LOD – high granularity



The Worst Enemy of the Designer

| The White Paper!

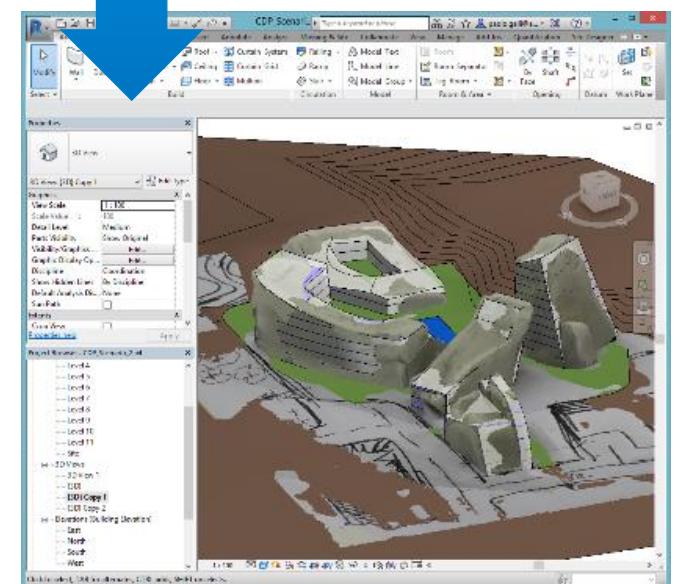
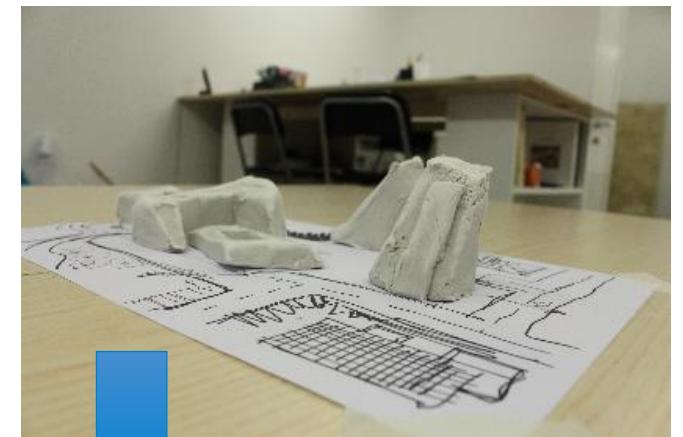


...sometimes even
Requie~~ce~~coffee...

CDP Substrate

Iterations, zoom and other keywords

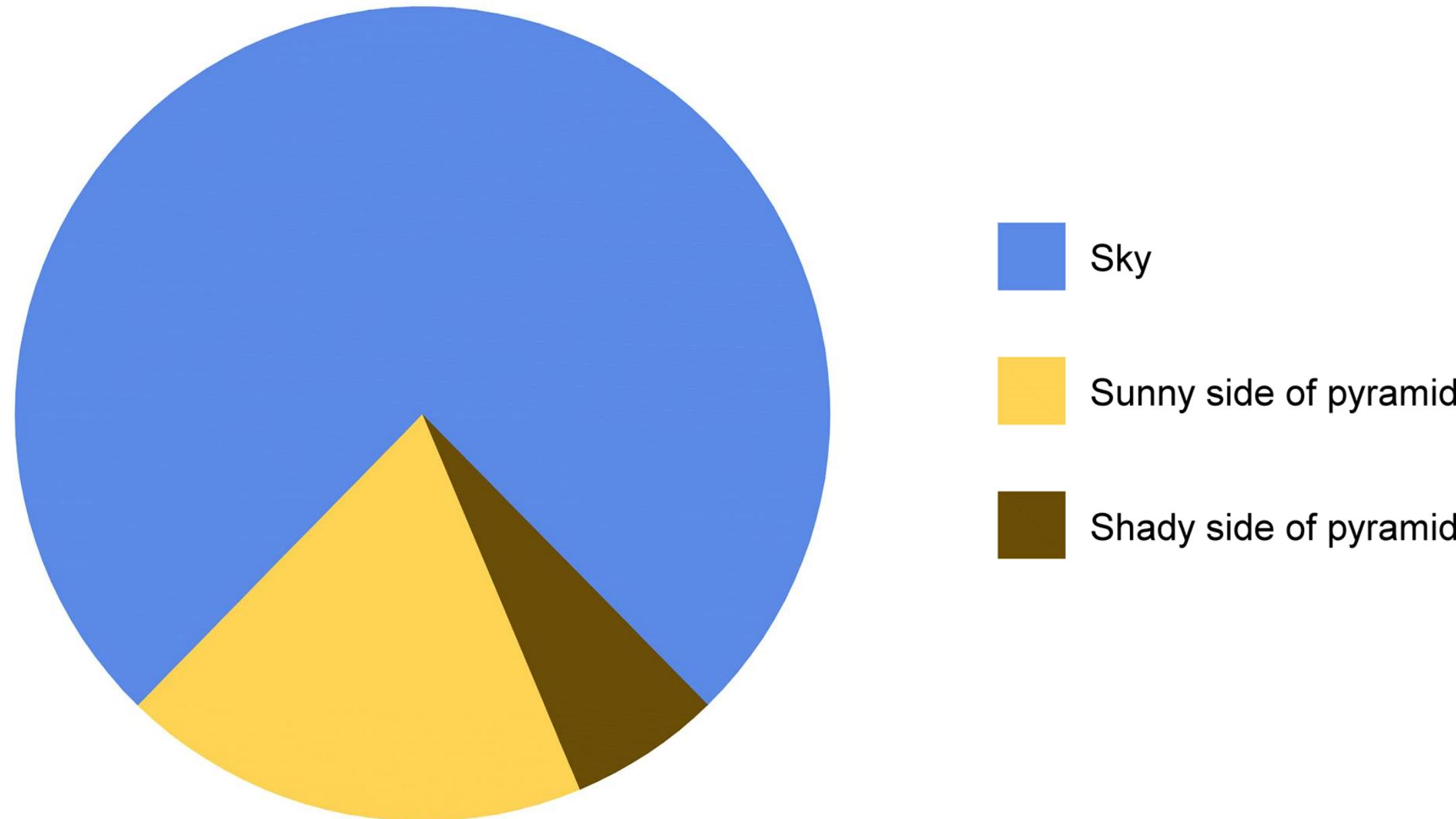
- General to Particular to General to Particular...
- Change the «lenses» often
- Communicate! Speak! Have Arguments! Fight!
- Fluid Roles
- Iterative development
- Non-Linear process
- Use «non-standard» approaches
- Mix digital and analogic methods
- ...*The Bucket and the Funnel*



Think out of the box

I look at things from a different point of view

(do not take anything for granted)



Think out of the box

| The Bucket and the Funnel

- The Funnel is the filter driving the ideas flow
- The Bucket is the *blind* container / the «ideas distillery»



- Energy Analysis
- EIR check
- Volumes and Plans evaluation
- Design Review Meetings

- Massing
- Sketches
- Brainstorming
- Scale Models

- Discuss
- Evaluate
- Check
- Choose

- Assimilate
- Elaborate
- Test
- Try
- Make mistakes

The Wheel | Gears moving the ideas

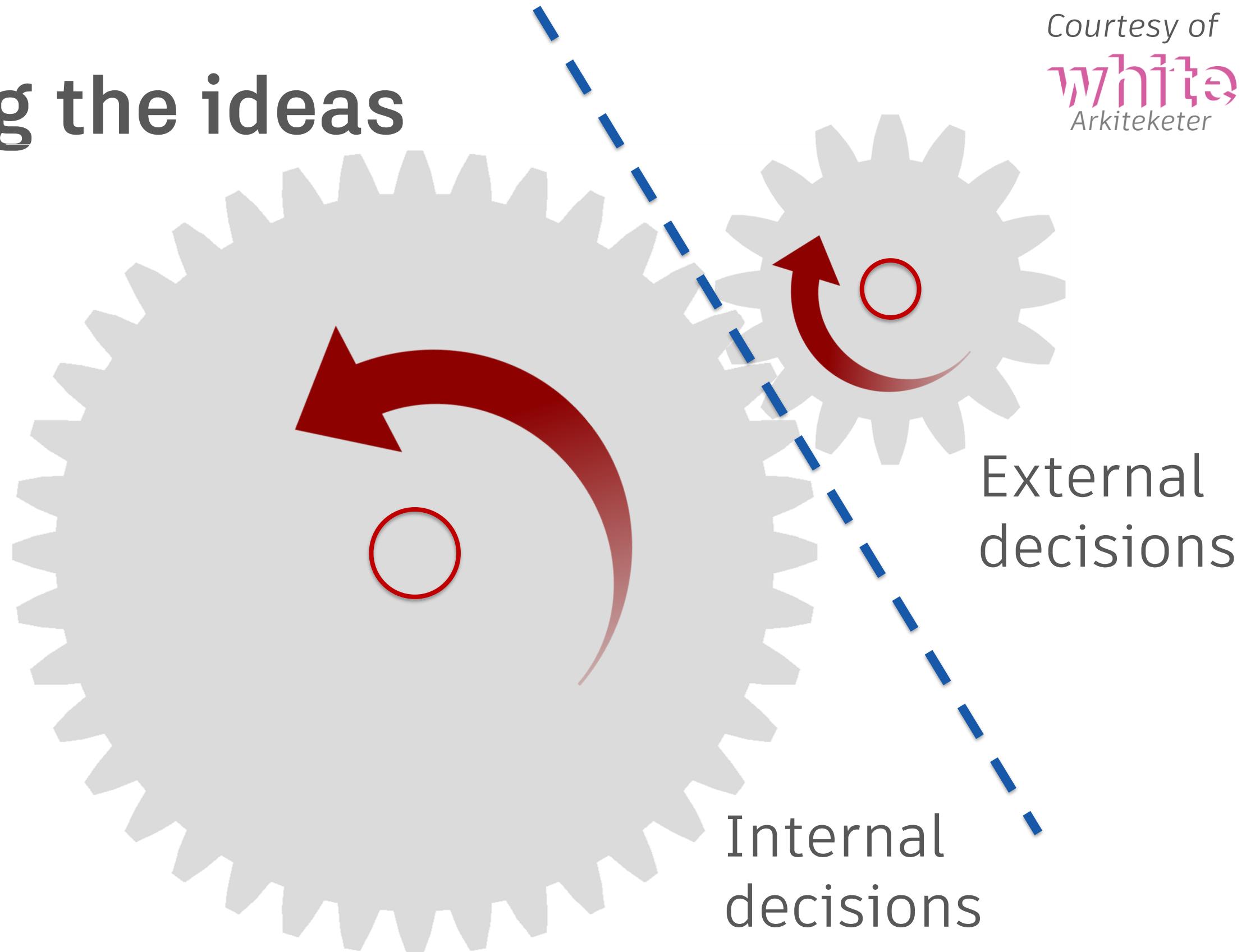
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IDEA:

There are two main action areas:

- *Depending on the designers*
- *Depending on someone else*

Requirements are the external gear causing the movement of the conceptual design mechanism

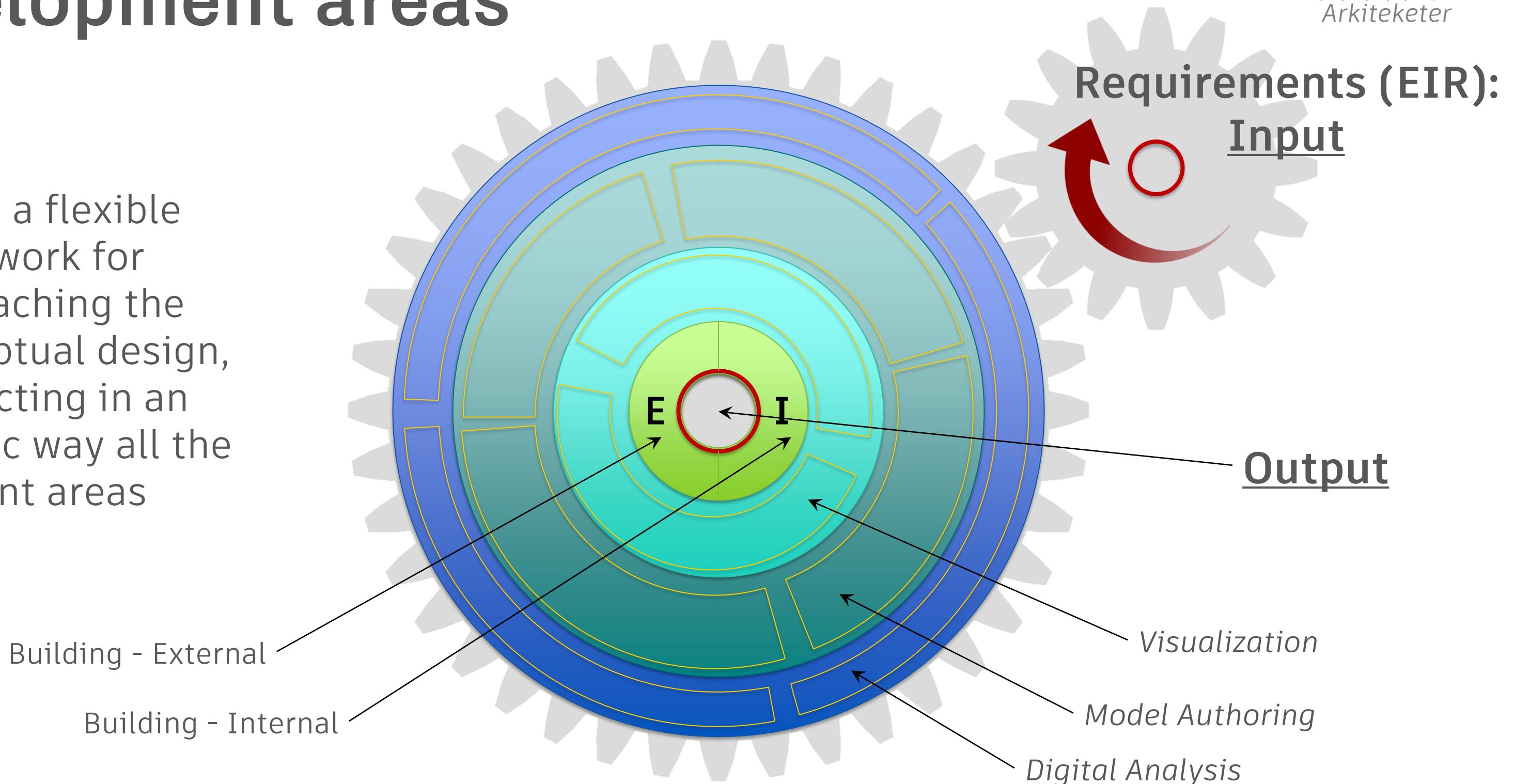


The Wheel | Interconnected topics and development areas

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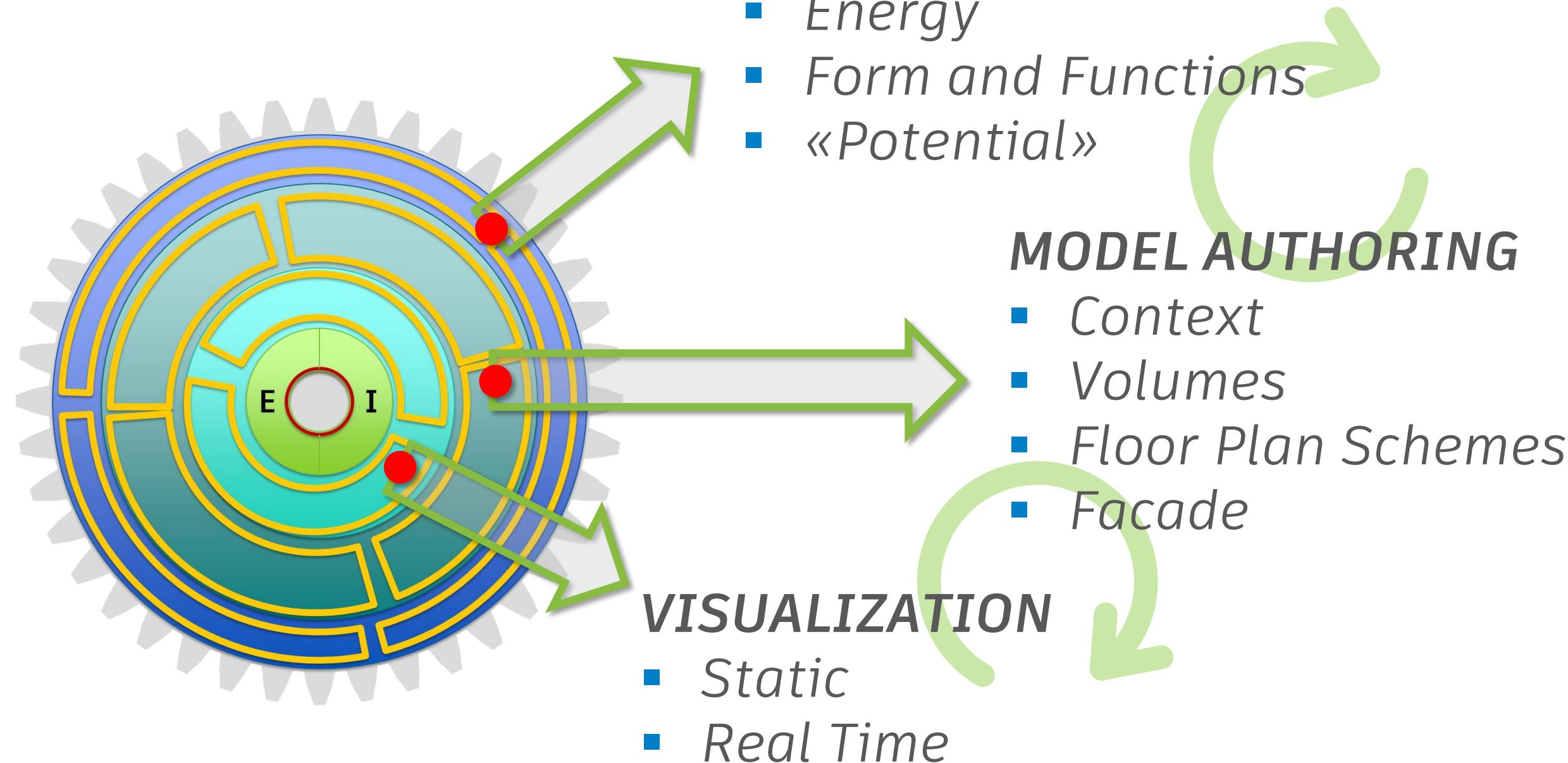
IDEA:

Create a flexible framework for approaching the conceptual design, connecting in an organic way all the relevant areas



The Wheel | Segments

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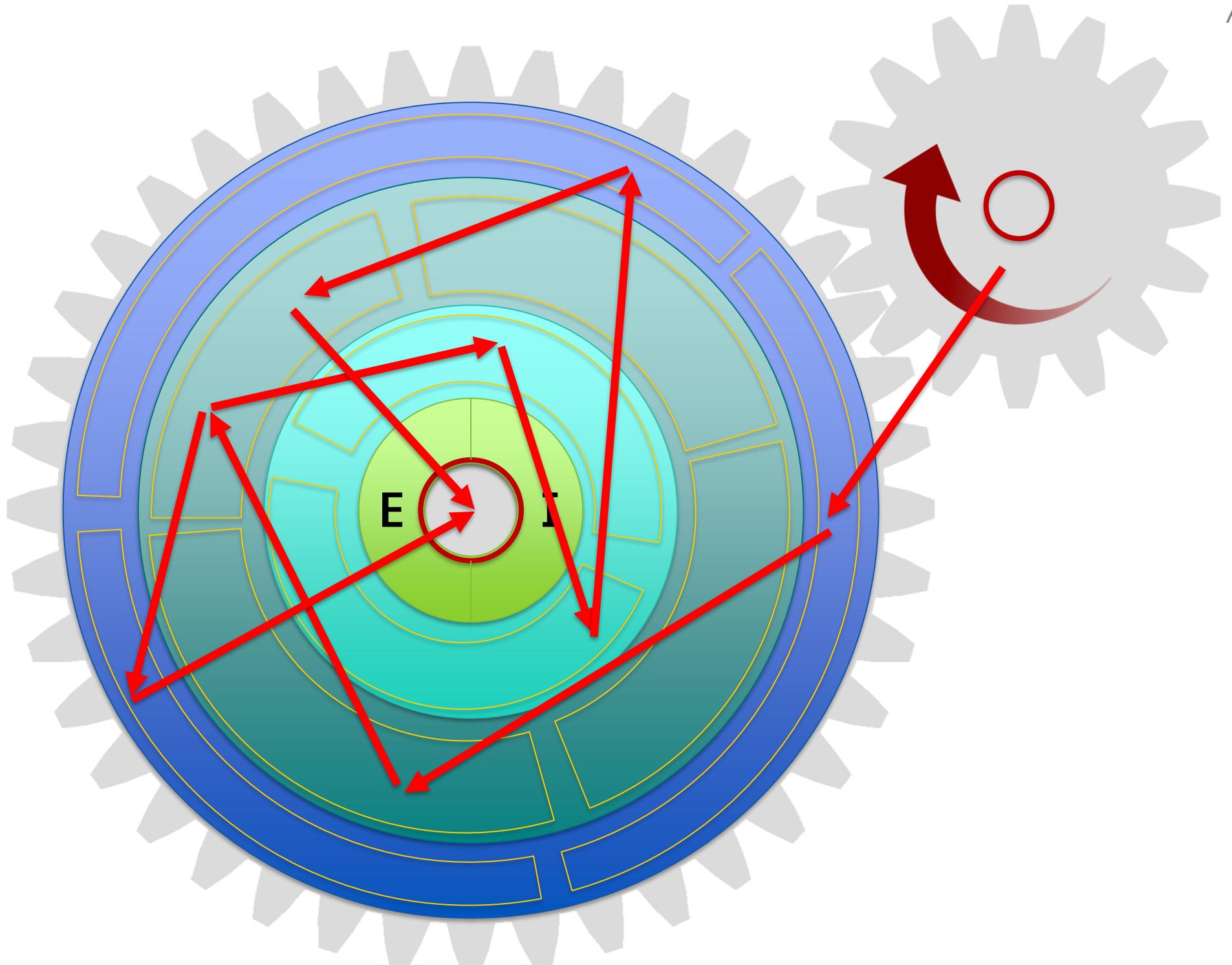
The Wheel | Different paths definition

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IDEA:

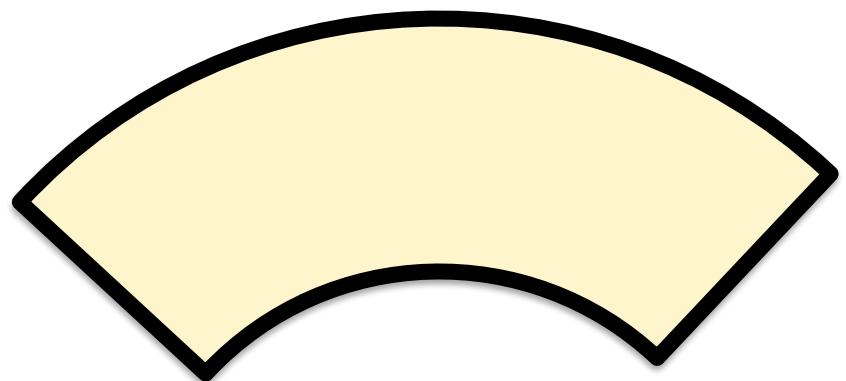
Depending on the project requirements and type, the framework allows to shape different paths

This allows to involve the most appropriate set of segments, applications and people



The Wheel | «Segment» components

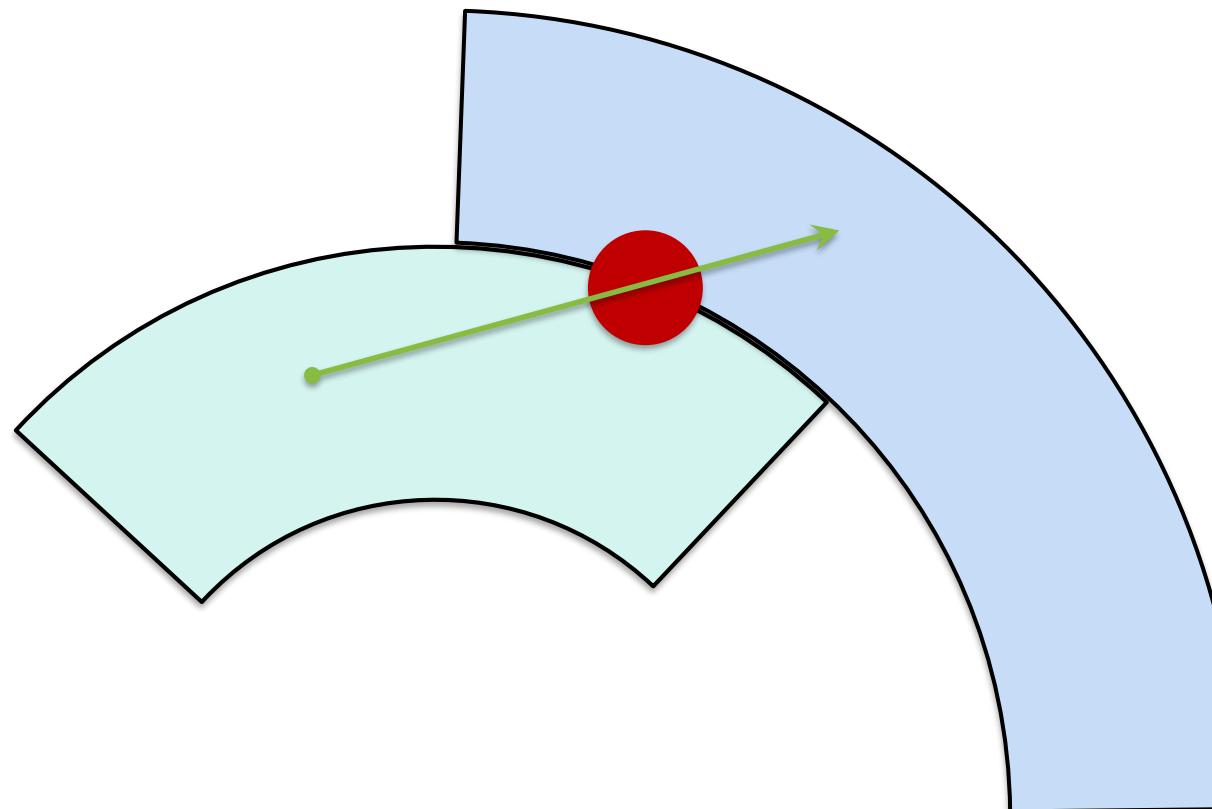
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- Scope** | What is the aim of this specific segment?
- Data** | What is the set of data to be used?
- Process** | What is the sequence of actions and the involved people? (here summarized outlining **inputs** and **outputs**)
- Tools** | What are the applications involved?

Interfaces between Segments

| Main topics



Scope | Supporting the seamless data flow and transformation

Data | Understand and define interoperability between applications and file formats

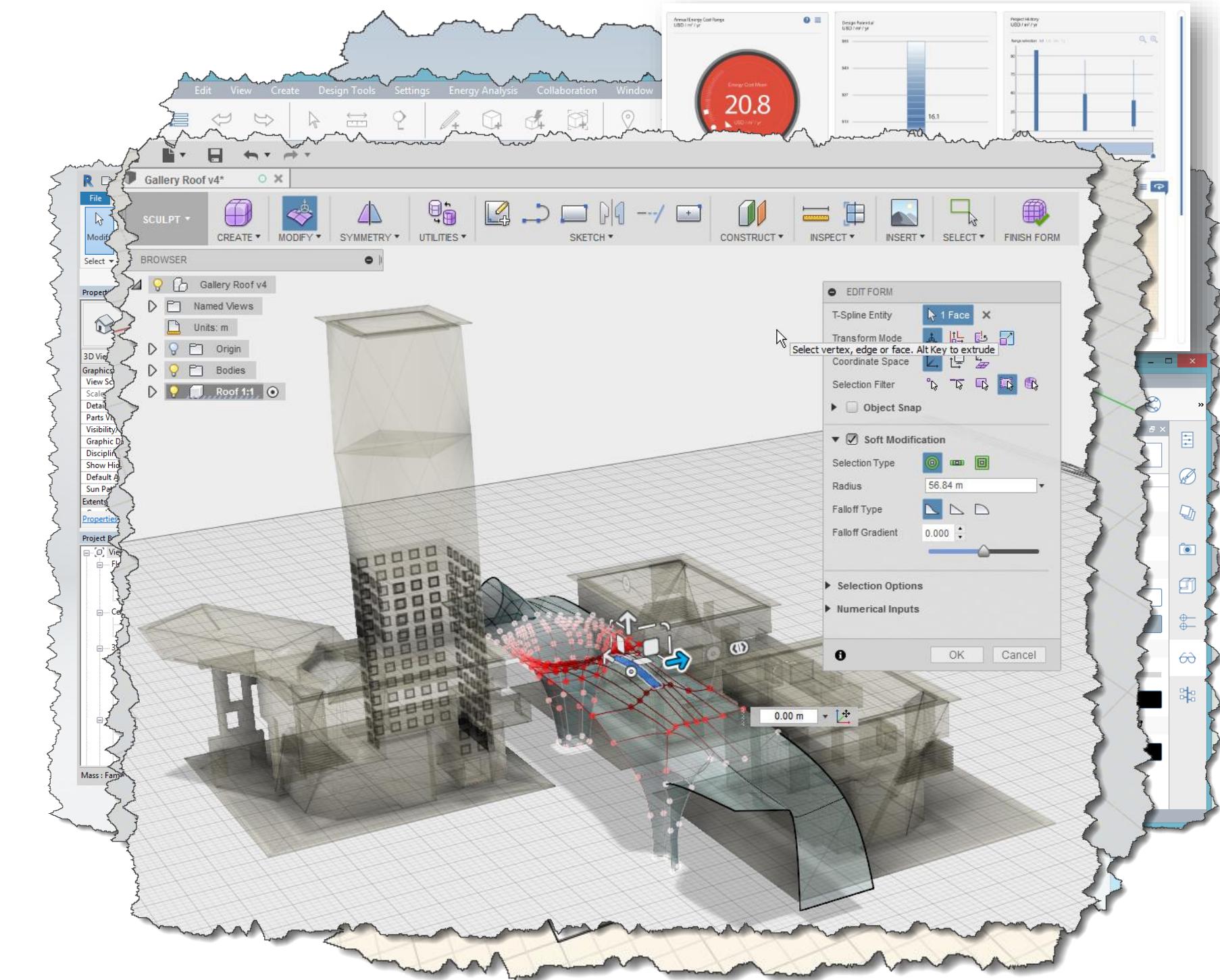
Process | Create a lightweight workflow for streamlining the tasks

People | Define roles and responsibilities for each interface type

Technical Stuff

Today's activities

- Formit: Main Commands
- Formit: High Rise Building modeling
- Revit/Formit: Interoperability
- Formit: Solar and Energy Analysis
- Formit: Collaboration!
- Fusion 360: Complex Roofing





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