

BIM IS NOT FAKE NEWS

BILT ACADEMY
SUMMIT 2019



CLAUDIO VITTORI ANTISARI

STRATEGIE DIGITALI SRL

Edinburgh 08-10-2019



STRATEGIE
DIGITALI

INTRO

The Teacher

Claudio Vittori Antisari

Architecture Degree - BIM & Computational Design Focus

10 Years of Revit experience

7 Years of experience on large international BIM Projects

Ex BIM Manager of Antonio Citterio Patricia Viel

Delegato for Norma *UNI 11337* (Italian BIM Norm)

Frequent Speaker at BILT and Autodesk University

Co - Founder of the BIM Italian User Group

Co - Founder of the Italian Dynamo Meetup



www.strategiedigitali.io



Tutoring



BIM Implementation



Computational Design



BIM Project Management



KLO1 – BIM vs Conceptual Design: Best Friends or Enemies?

- Understand advantages and criticalities of BIM when used in the conceptual design phase
 - Learn how to break down a project brief into a series of BIM related objectives.
 - Understand BIM Model Uses, data and information production for the conceptual design phase.
-

BIM vs CONCEPT DESIGN

BIM

CONCEPT
DESIGN

MODEL USES

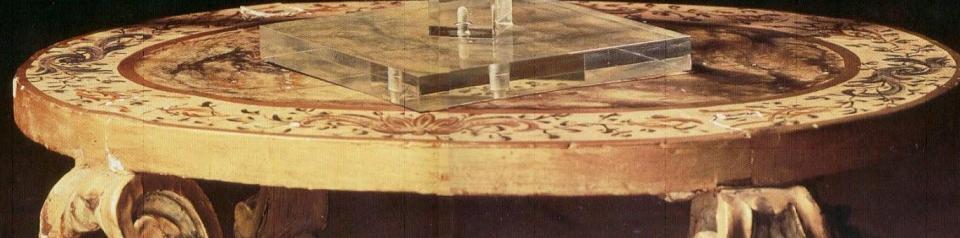
CONCEPTUAL
MODELLING

DATA GATHERING
AND
VISUALIZATION

QUALITATIVE
ANALYSIS FOR
CONCEPTUAL
DESIGN

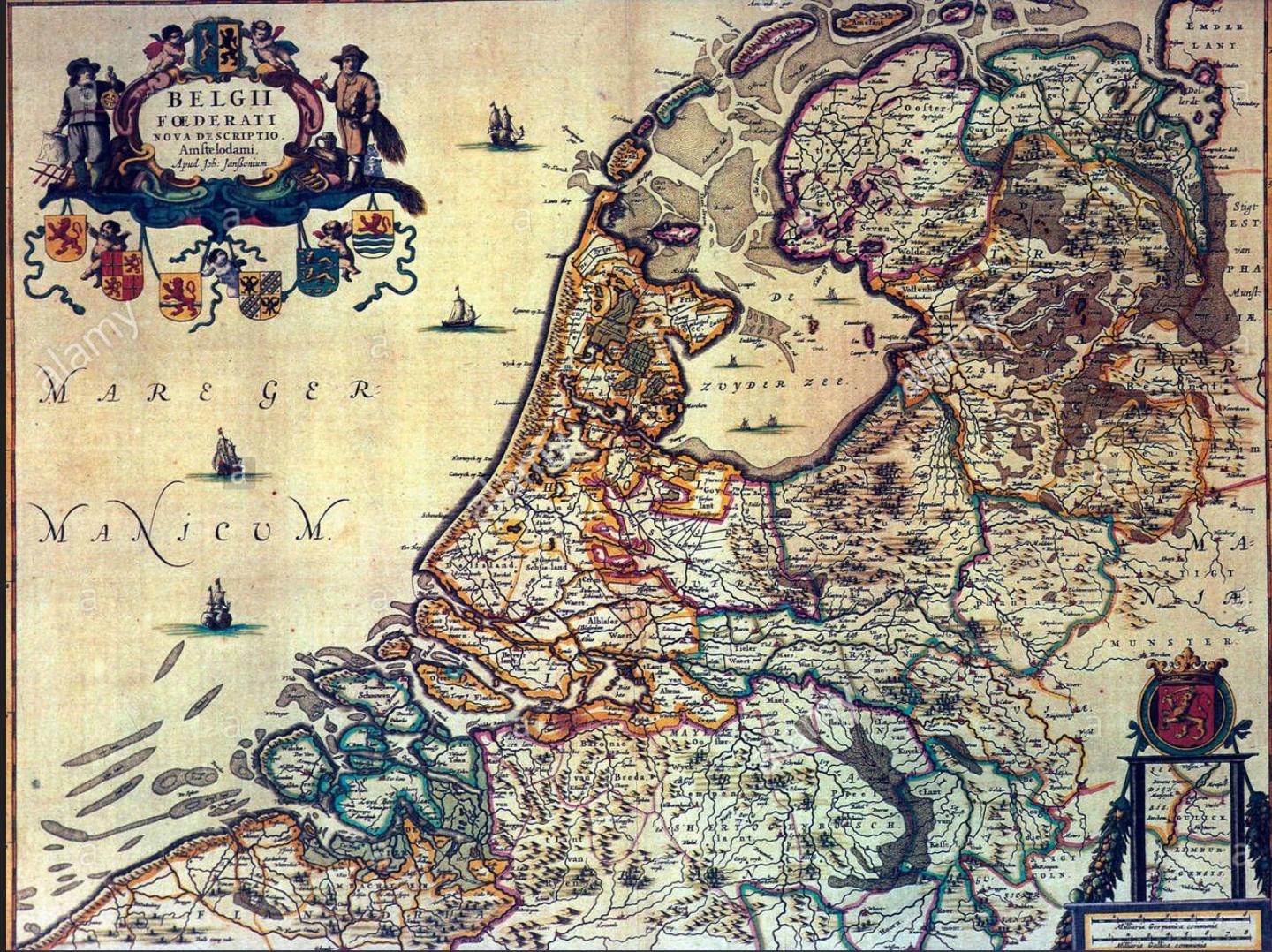
TOOLS AND INSTRUMENTS

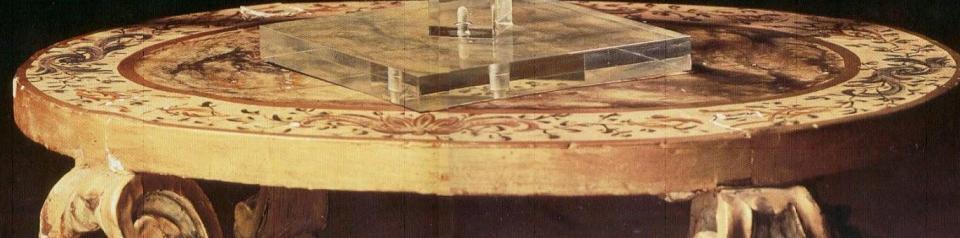






GALILEO GALILEI 1564 – 1642

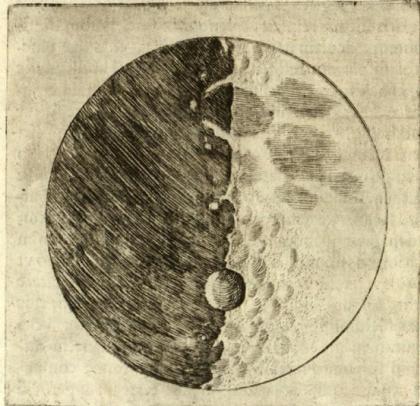






OBSERVAT. SIDERE AE

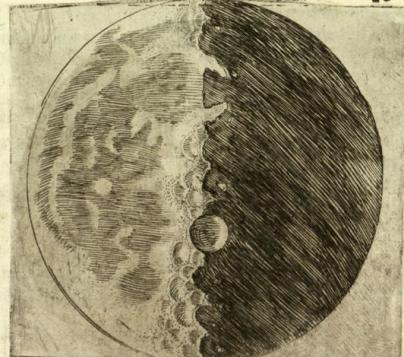
Quum daturam. Depressiores insuper in Luna cernuntur magna maculae, quam clariores plagae; in illa enim tam crescente, quam decrescente semper in lucis tenebrarumque confinio, prominentem hincidem circa ipsas magnas maculas contermini partis lucidioris, veluti in describindis figuris obseruauimus; neque depressiores tantummodo sunt dictarum macularum termini, sed aquabiliores, nec rugis, aut asperitatibus interrupti. Lucidior verò pars maximè propè maculas eminet; adeò ut, & ante quadraturam primam, & in ipsa secundam, circa maculam quandam, superiorem, borealem nempè Lung plagam occupantem valde atollantur tam supra illam, quam infra ingentes quada eminentiae, veluti appositæ præseverunt delineationes.



Hec

RECENS HABITAE

10



Hec eadem macula ante secundam quadraturam nigrioribus quibusdam terminis circumuallata conspicitur; qui tanquam altissima montium iuga ex parte Soli auerba obscuriores apparent, quà verò Solem respiciunt lucidiores extant; cuius oppositum in cavitibus accedit, quā pars Soli auerba splendens appetet, obscura verò, ac umbrofa, quæ ex parte Solis sita est. Imminuta deinde luminosa superficie, cum primum tota ferme dicta macula tenebris est obducta, clariora motuum dorsa eminenter tenebras scandunt. Hanc duplēcēm apparentiam sequentes figurae monstrant.

C 2 Vnum







Ravé par Gérard Venet

Gravé à l'encre forte par Duplessy-Rivière

Tirage par Pichot & Jeune

ENTRÉE DES FRANÇAIS A VENISE, EN FLORÉAL, AN 5.



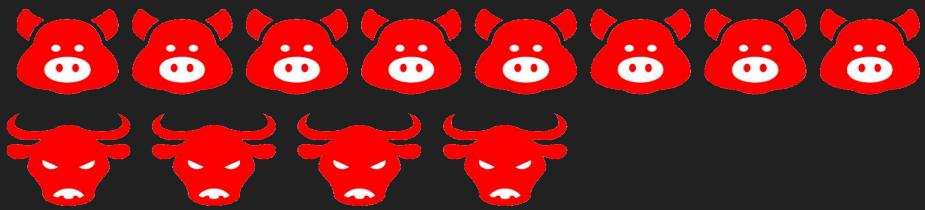


PROFESSOR (FOR LIFE)

+

2000 FIORINI (YEARLY)



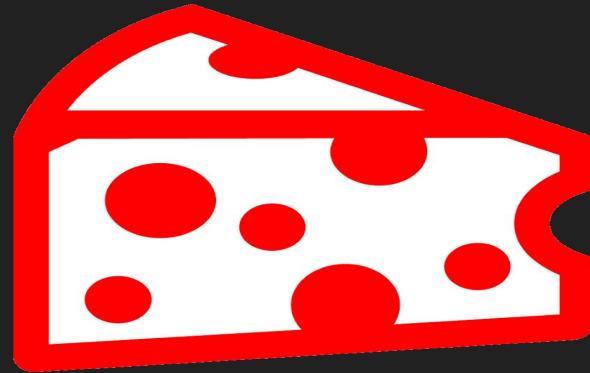


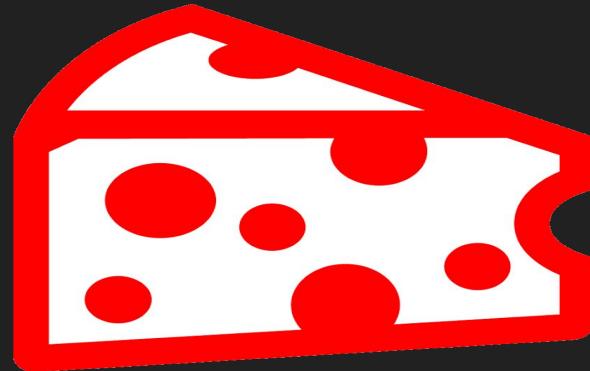


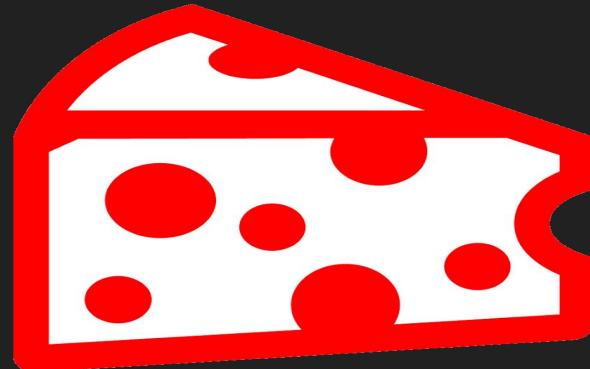


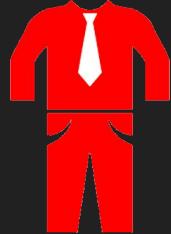
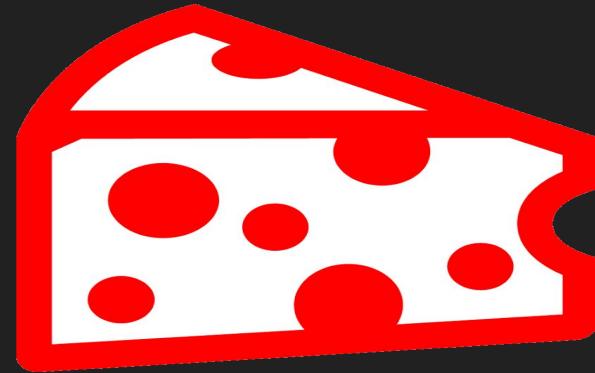














2 HOURS

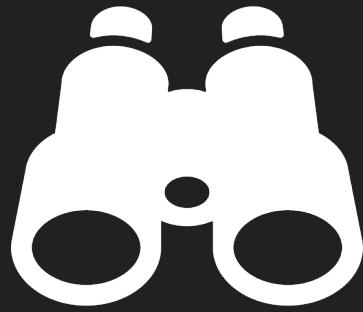


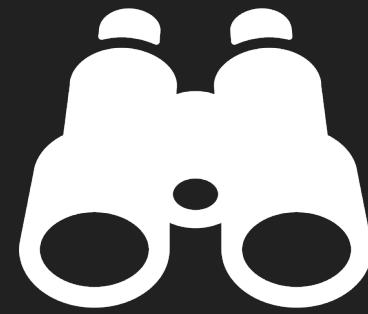
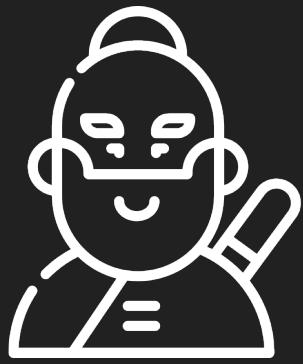
REVOLUTIONARY CHARACTER

CHANGES A PROCESS

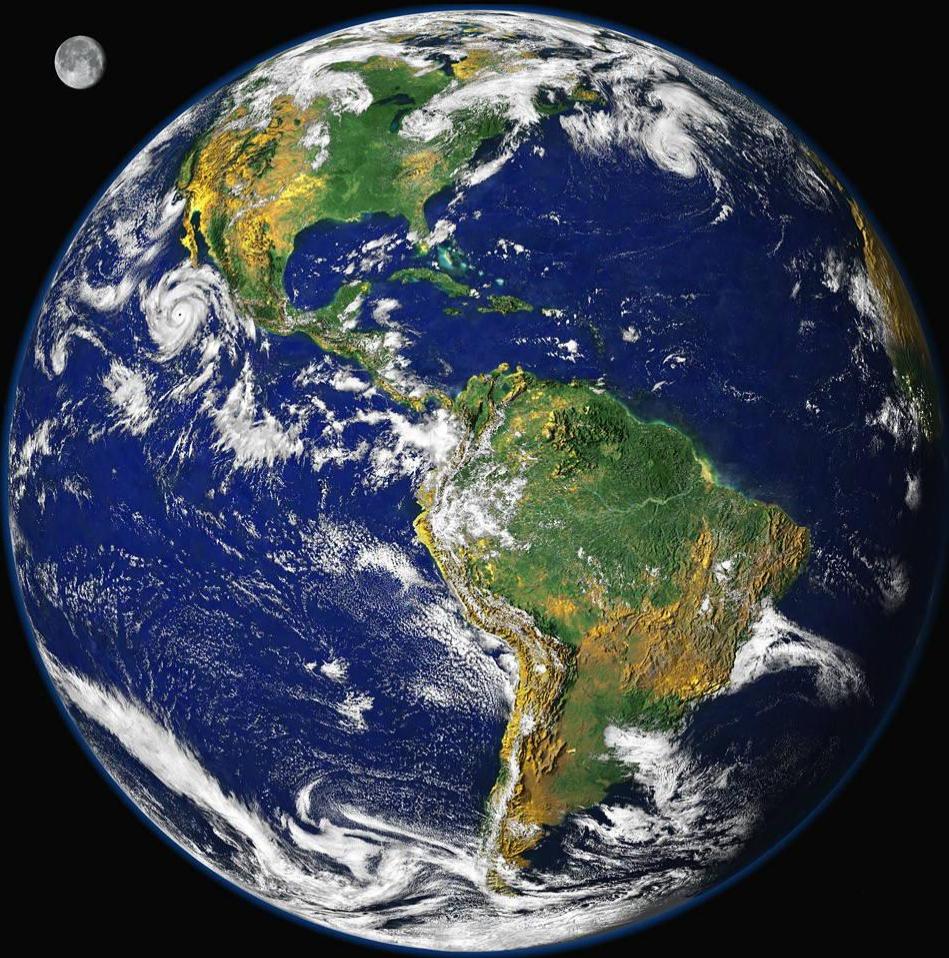
MAKING OTHER TOOLS OBSOLETE

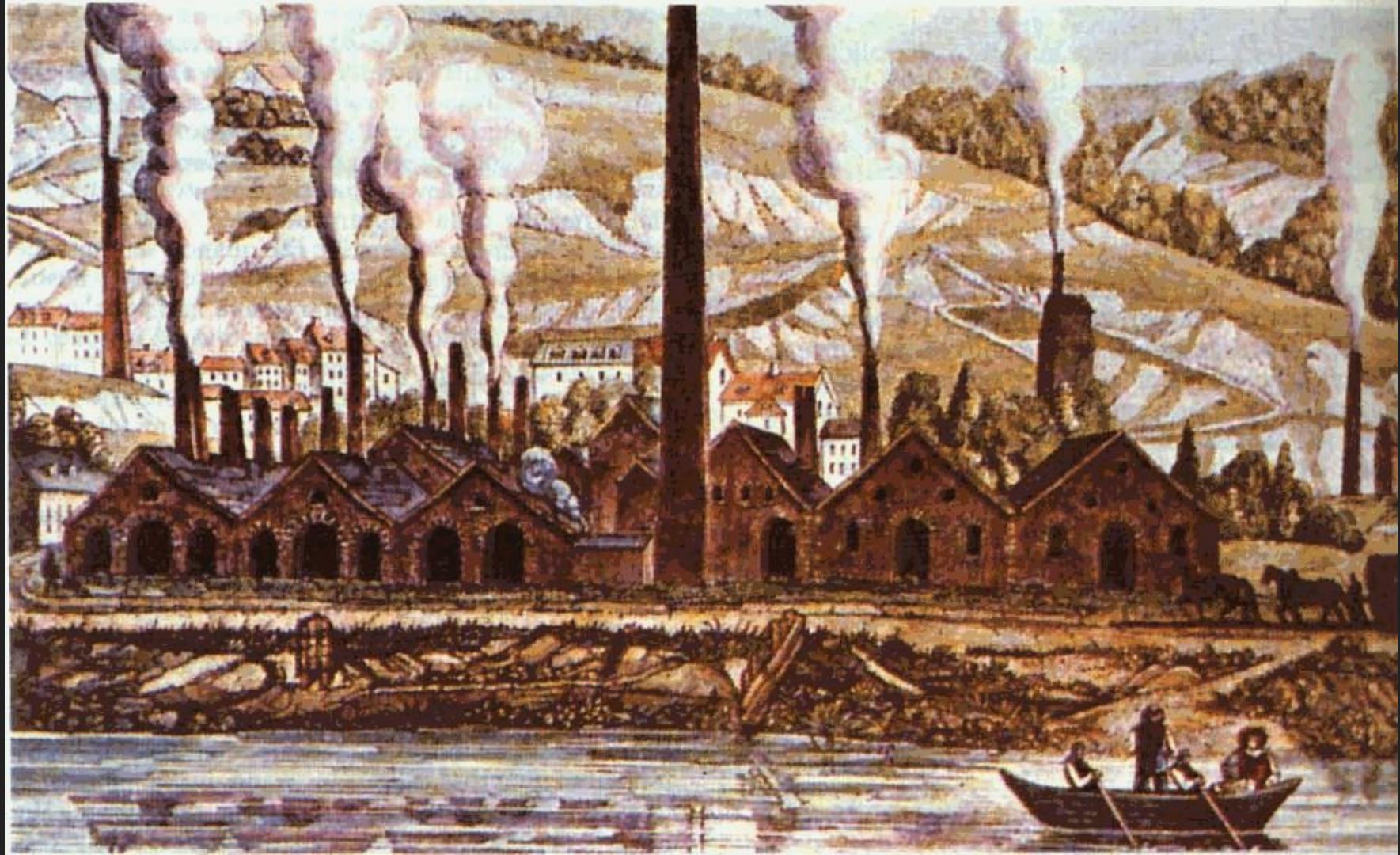












UNLIMITED RESOURCES
CONTINUOUS GROW
WASTE IS NOT A PROBLEM

NOT ANYMORE

Here's your number*: (in billions)

2,566,982,973

Share your number: [Twitter](#) [Facebook](#) [Email](#)

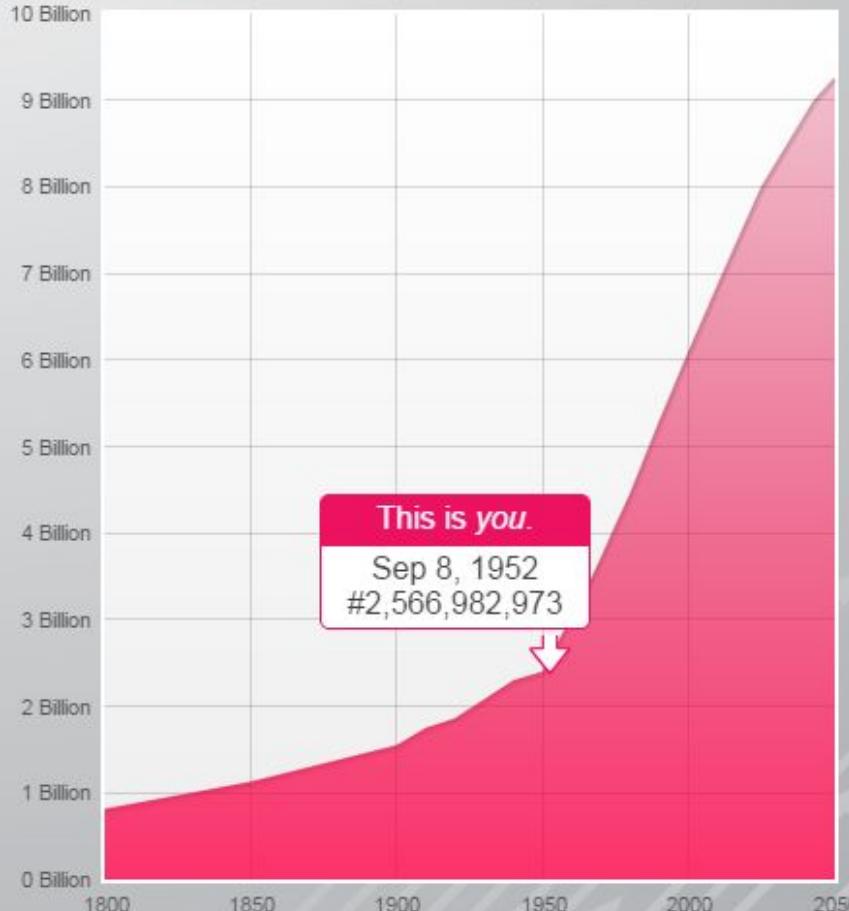


Put me on the map

Did you know?

- Whether the world population reaches 8 billion or 11 billion in this century depends on the choices we make today. Around the world, more than 200 million women want to prevent pregnancy but lack contraception.
- In 2008, over one-half of the world's population were under the age of 30, and over one quarter were under the age of 15.

You are 1 in 7 billion



* As hundreds of thousands of people are born every day, your assigned number is one possible value based on the estimated world population on your date of birth. Population data is courtesy of the United Nations Population Division.

Here's your number*: (in billions)

4,976,683,056

Share your number: [!\[\]\(c386b6be28f29f50a8089f4302e31f17_img.jpg\)](#) [!\[\]\(bde0162335a21458d275821c279d0262_img.jpg\)](#) [!\[\]\(f570565bdf64b763e6012587f45f1a9c_img.jpg\)](#)

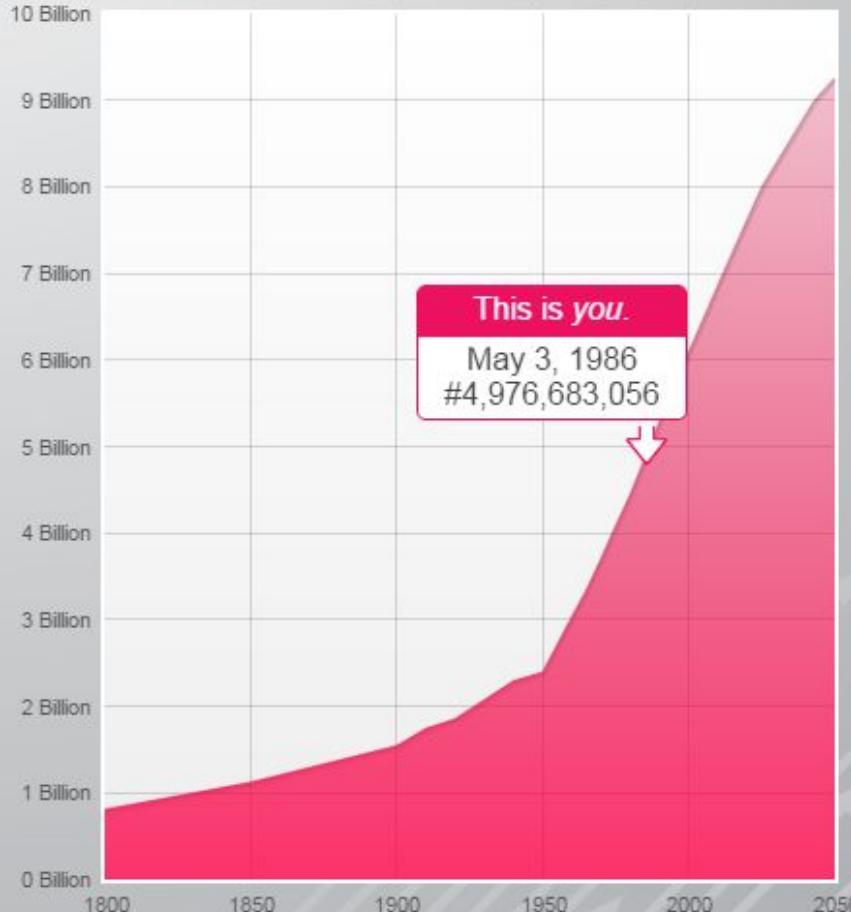


Put me on the map

Did you know?

- Whether the world population reaches 8 billion or 11 billion in this century depends on the choices we make today. Around the world, more than 200 million women want to prevent pregnancy but lack contraception.
- The average births per minute in the United States is six. The average births per minute in developing countries is 240.

You are 1 in 7 billion



* As hundreds of thousands of people are born every day, your assigned number is one possible value based on the estimated world population on your date of birth. Population data is courtesy of the United Nations Population Division.

WORLD POPULATION
2019 7.6 BILLIONS

WORLD POPULATION

2019 7.6 BILLIONS

2050 9.7 BILLIONS

POPULATION IN CITIES
2016 54%

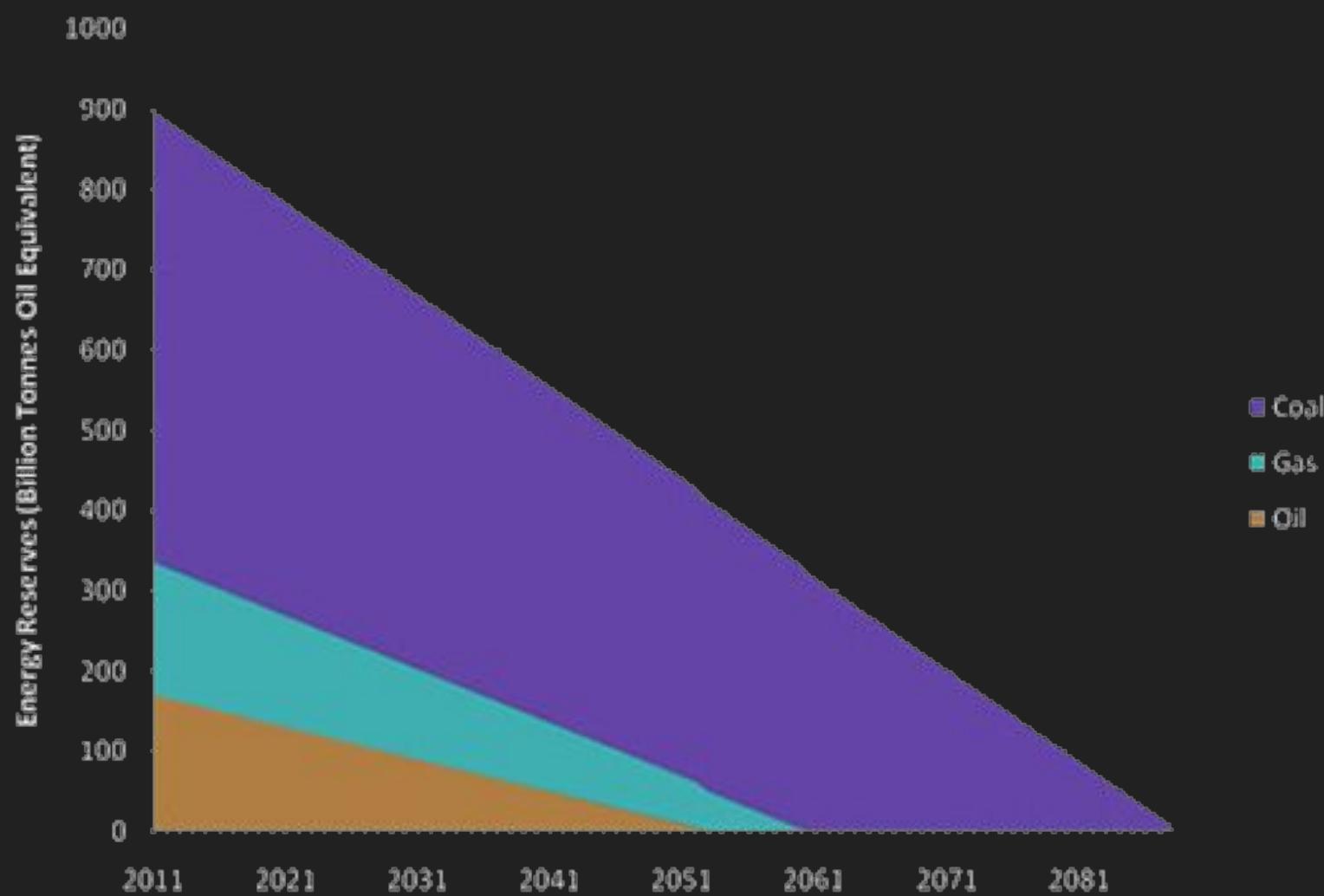
POPULATION IN CITIES

2016 54%

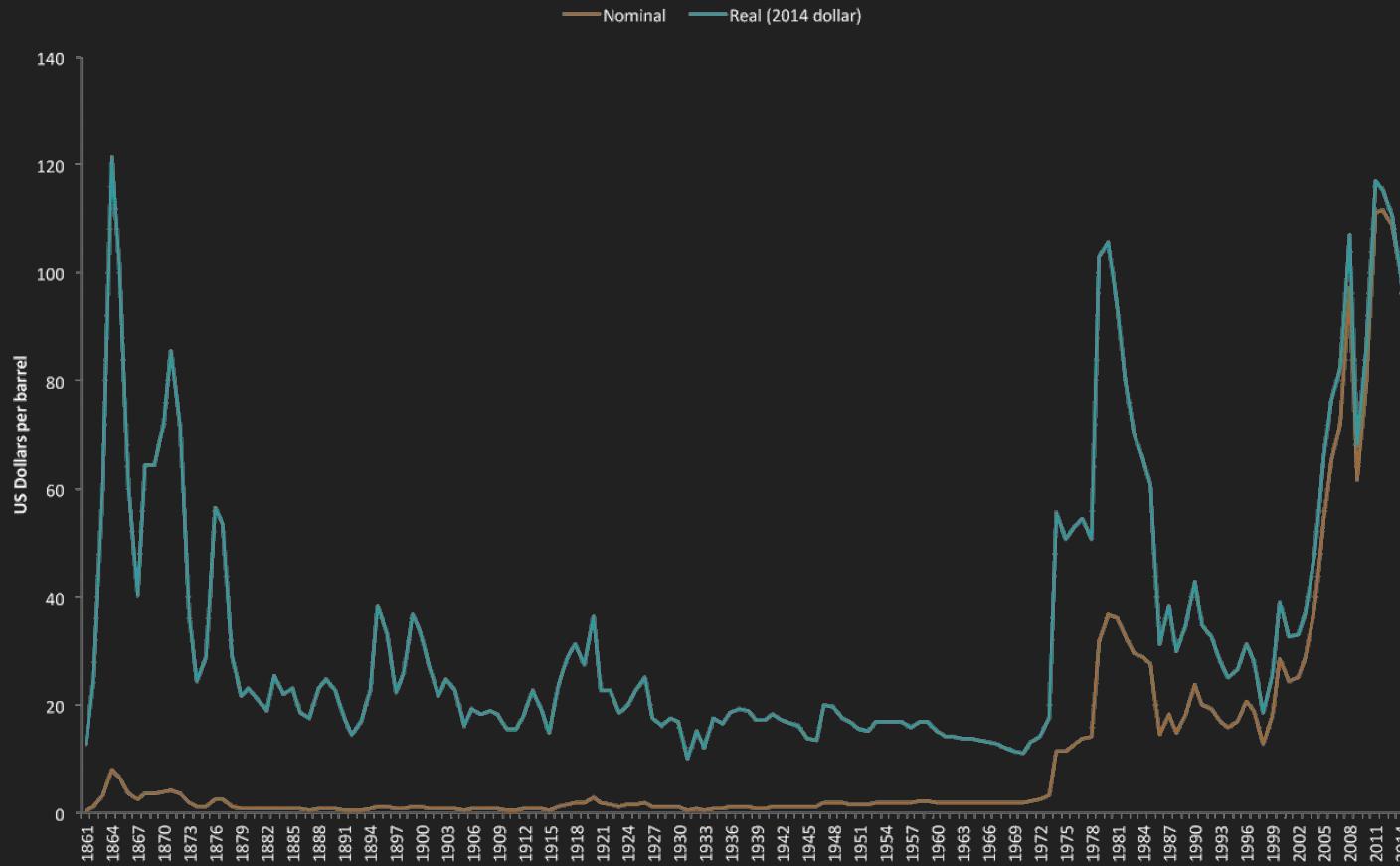
2050 66%

+2.5 BILLIONS

USING LIMITED RESOURCES



CRUDE OIL PRICES SINCE 1861

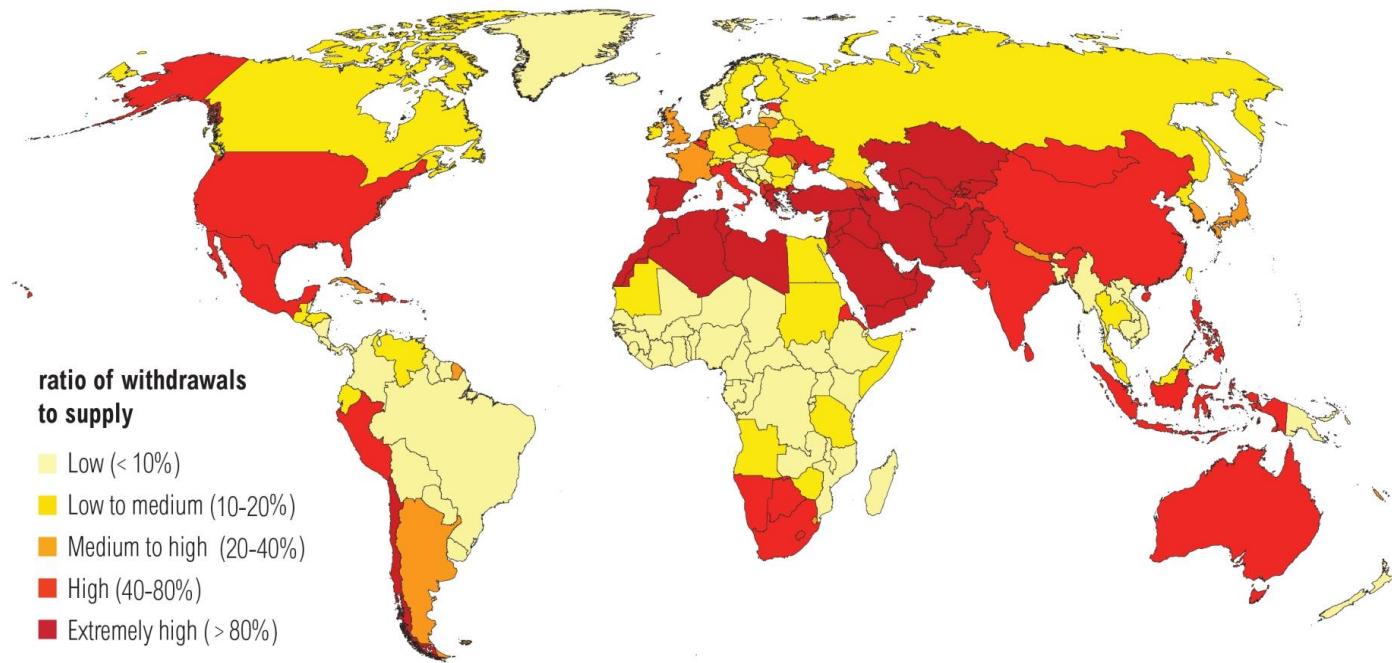




FEW AND COMPROMISED



Water Stress by Country: 2040



NOTE: Projections are based on a business-as-usual scenario using SSP2 and RCP8.5.

For more: ow.ly/RiWop



WORLD RESOURCES INSTITUTE

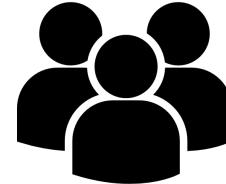
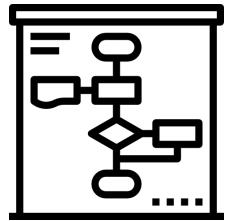
BUILDING INFORMATION MODELLING?

**BIM WILL NOT SOLVE ANYONE OF THIS
PROBLEMS**

BIM IS THE INSTRUMENT WE WILL USE
TO ANSWER THIS PROBLEMS

BUILDING INFORMATION MODELLING

Building Information Modelling



WHAT IS A PROJECT

What is a Project?

Latin origin

projectare

(Latin Origin): Throw Forward

Disclaimer

Architecture is different from painting





Any project is a Vision

Forecasting something that is not here



CONCEPT DESIGN

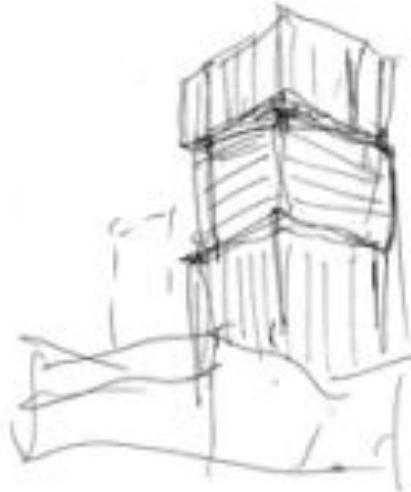
What is a Concept Design

Different Types

NEW BUILDING STARTING
TO SCRATCH

FEASIBILITY STUDY

RENOVATION





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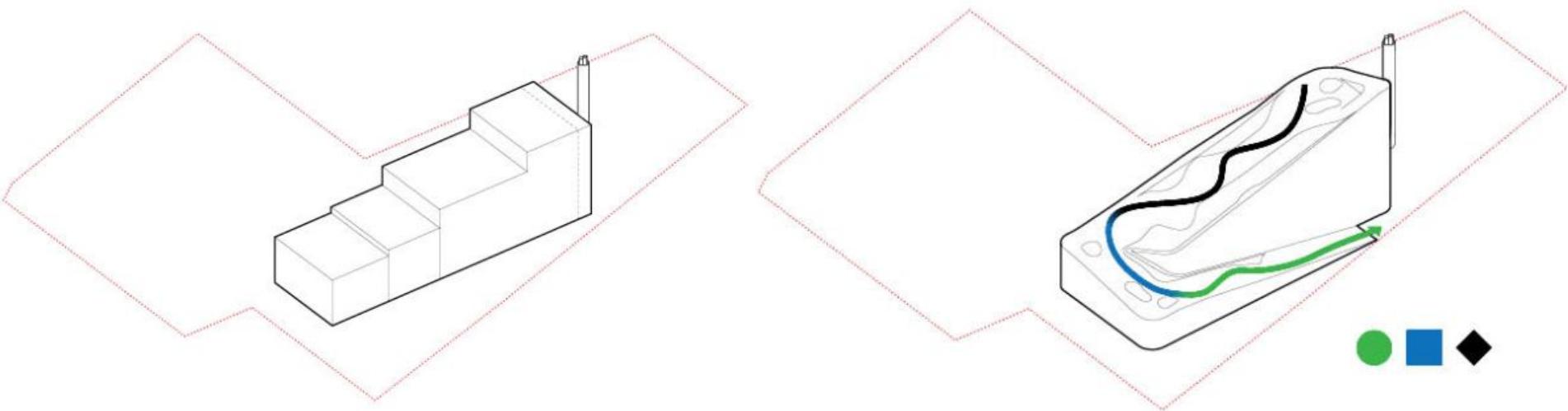


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DIGITALI

IT'S ALL ABOUT VISIONS?

BIG ARCHITECTS

Copenhill Power Plan









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DIGITALI

Diller Scofidio + Renfro

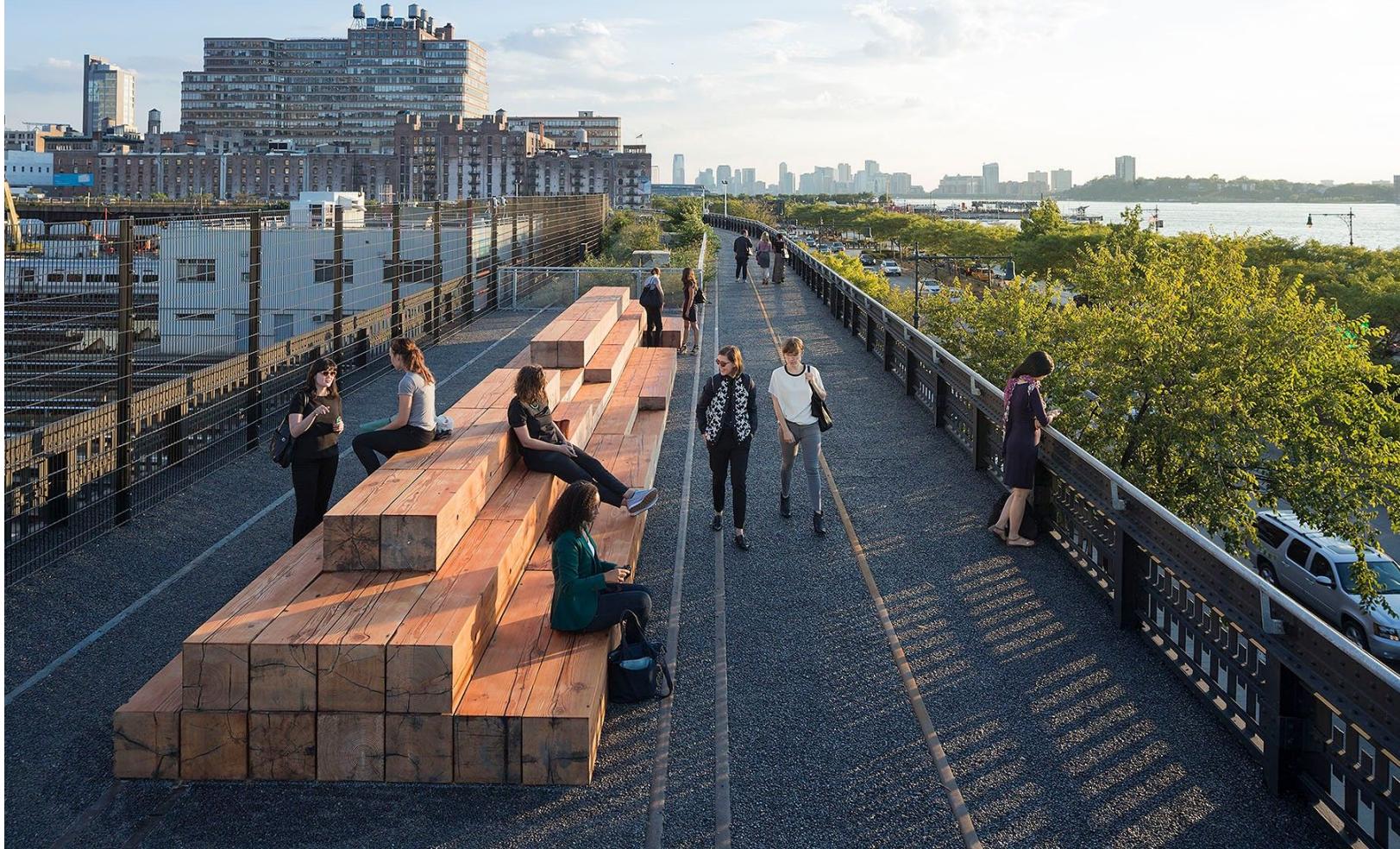
High Line (New York)





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DIGITALI



STRATEGIE
DIGITALI

FRANK GEHRY

bilbao guggenheim





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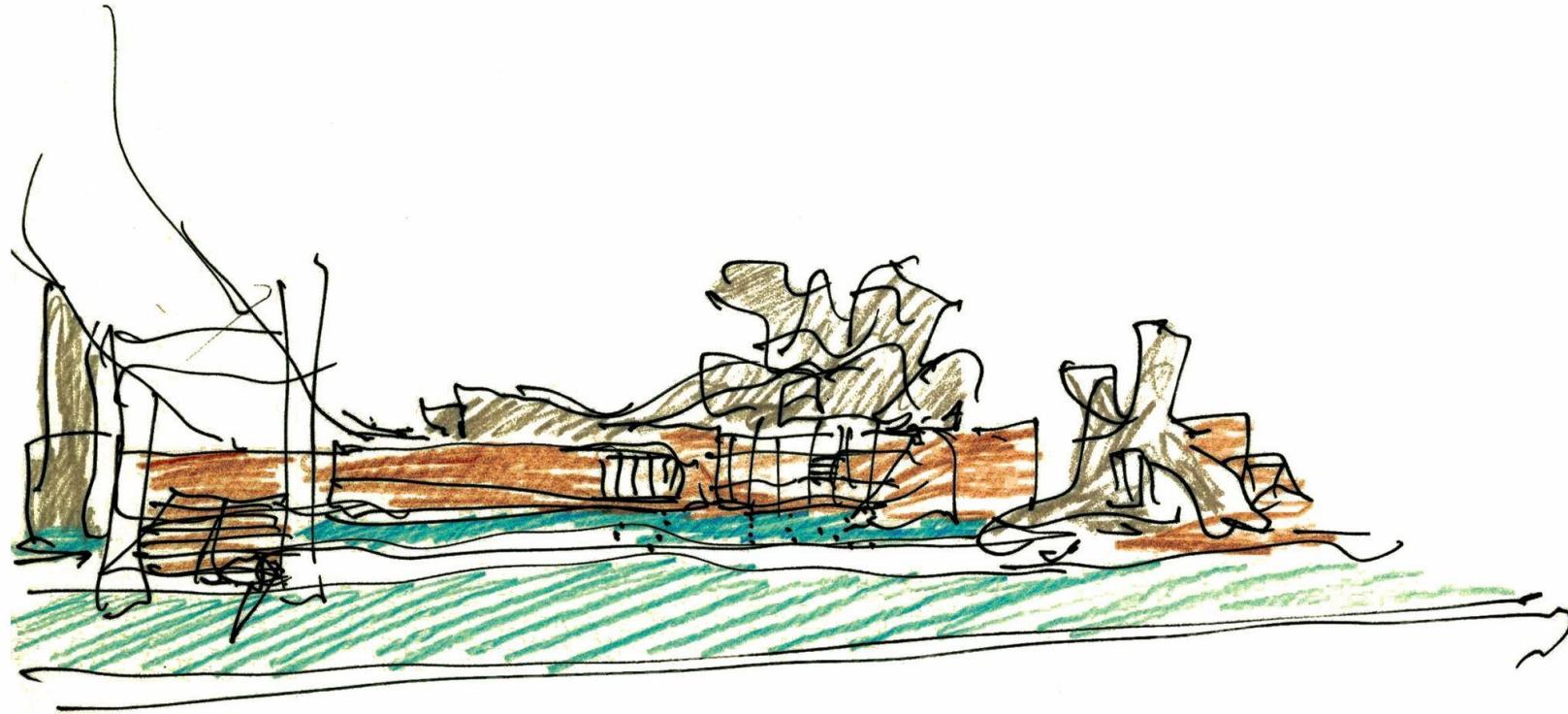








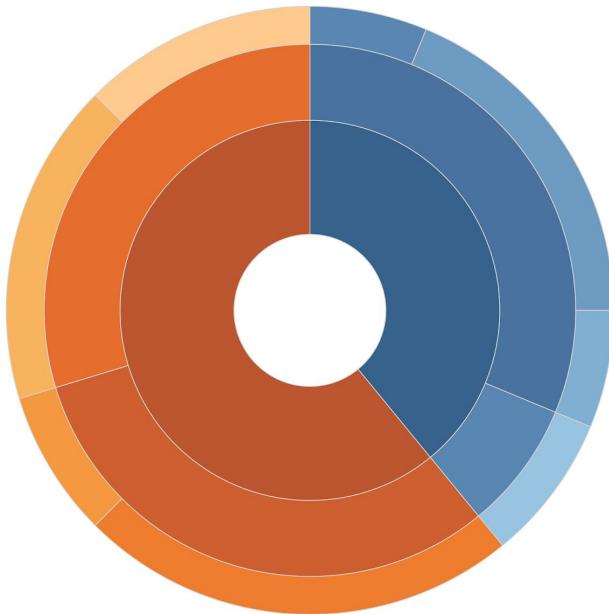
The Competition





First Problem

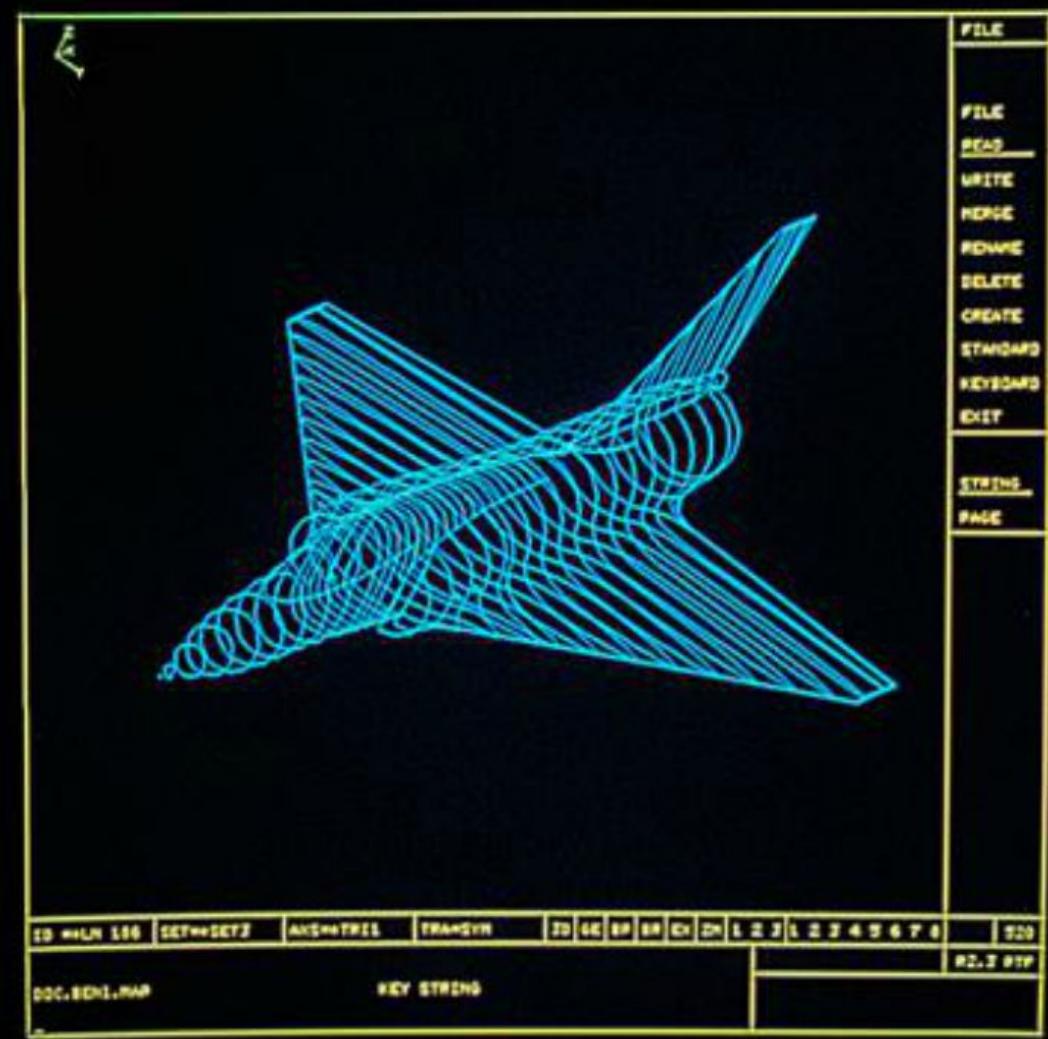
What about the design Programme



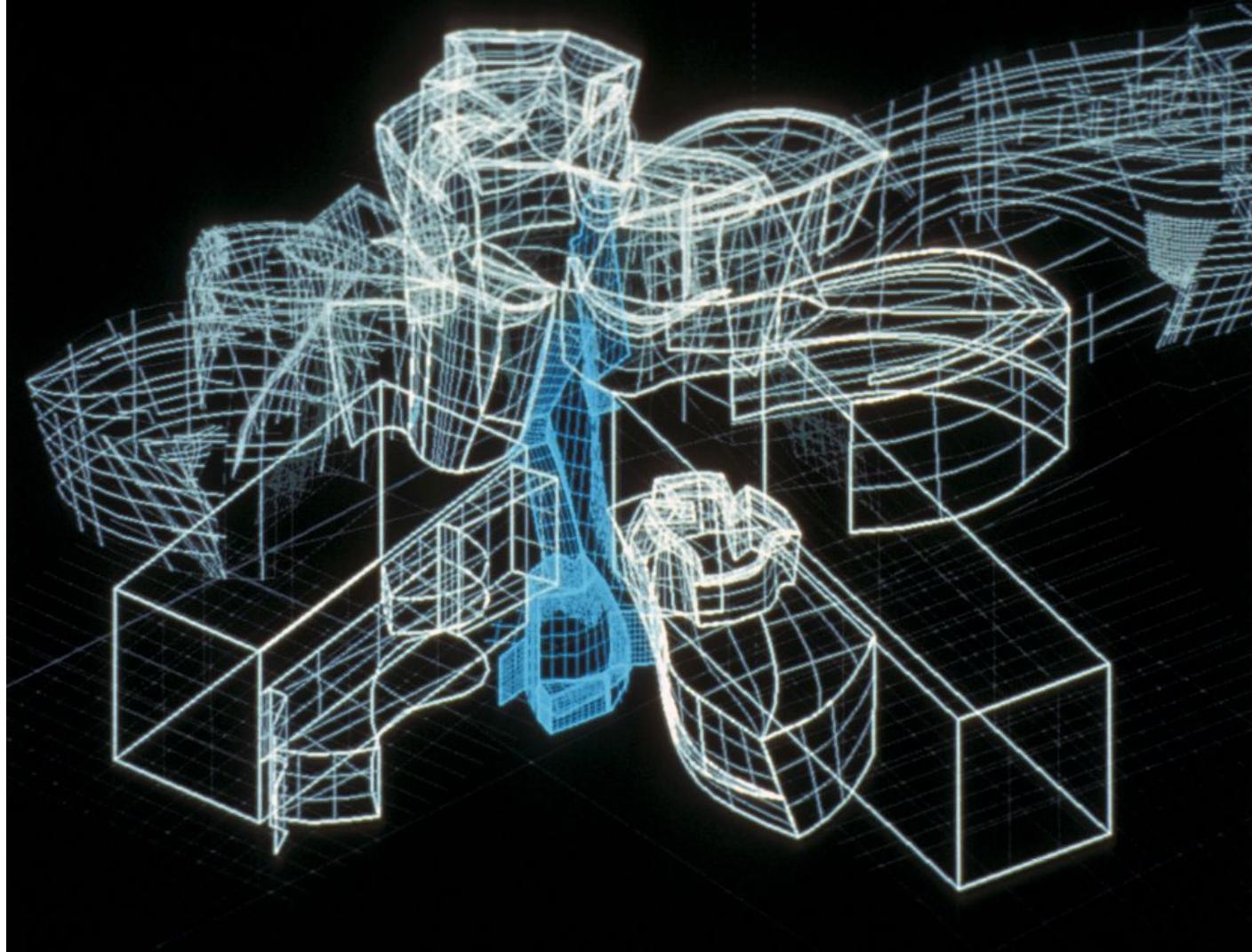
Square Meters?



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**STRATEGIE
DIGITALI**



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DIGITALI

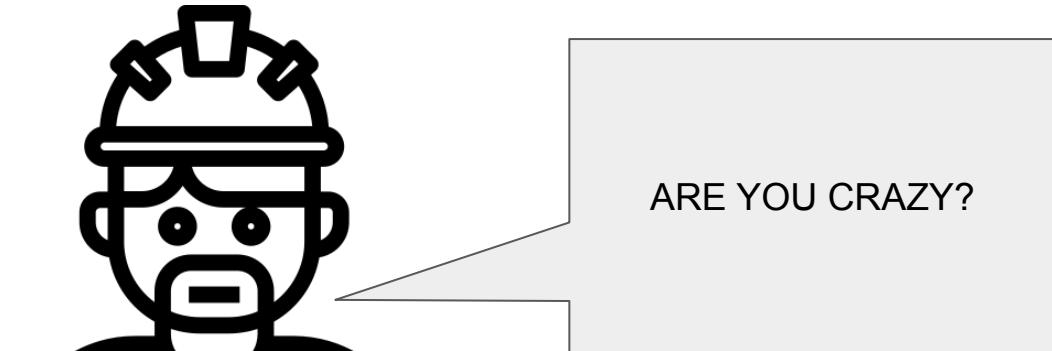
Technological Migration

Very Common in AEC

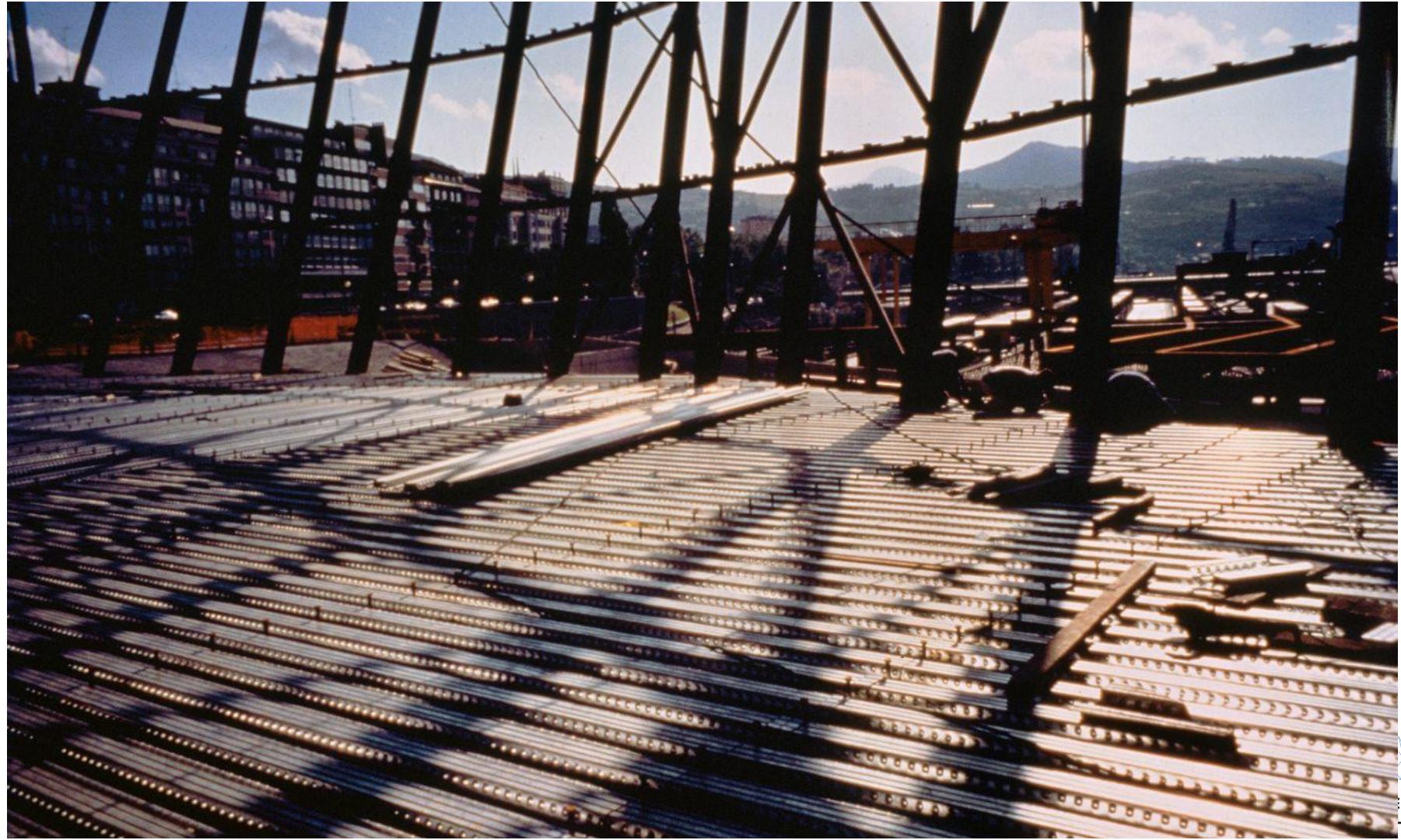


Second Problem

How do we built this thing



THE STEEL
CONTRACTOR

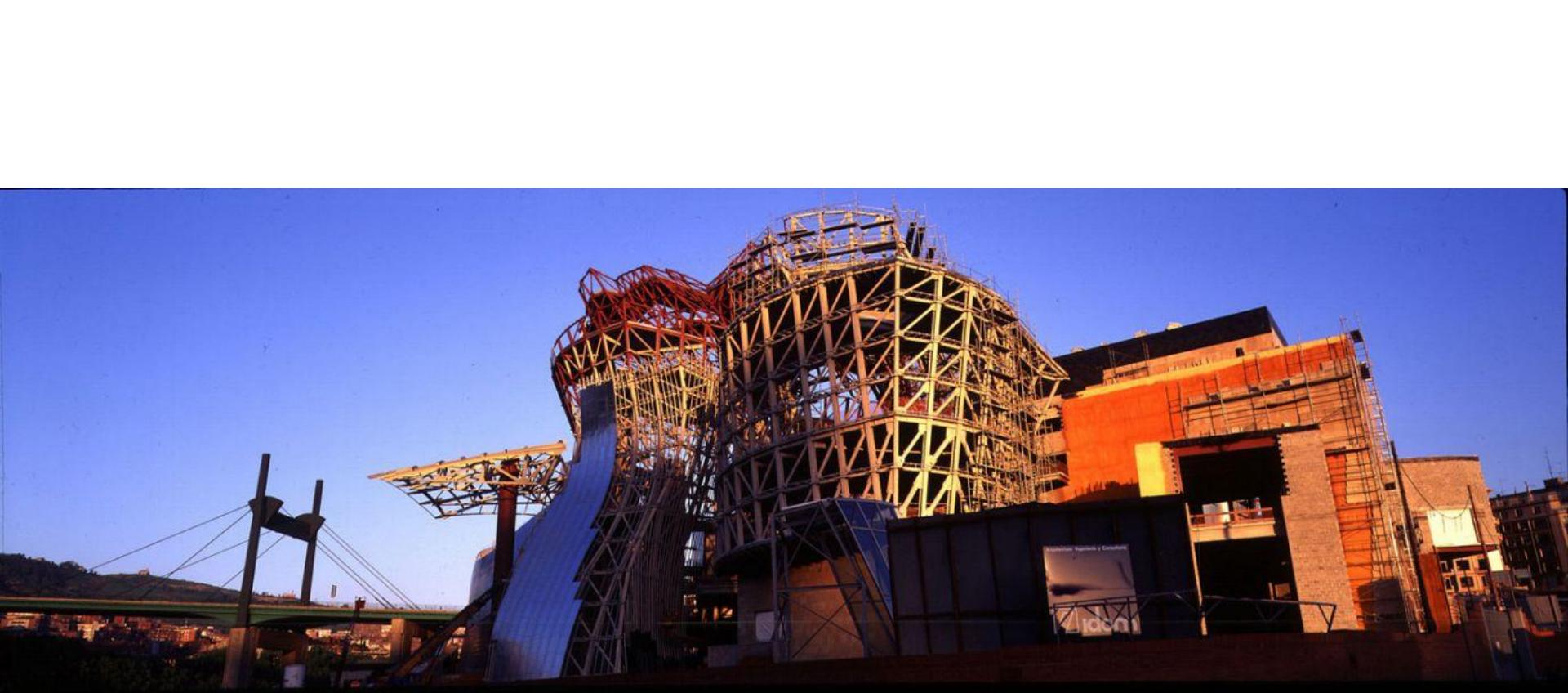




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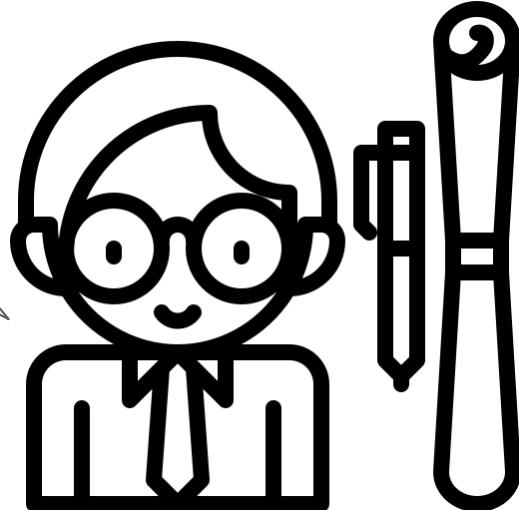


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Second Problem

The Solution

LET'S WORK
TOGETHER



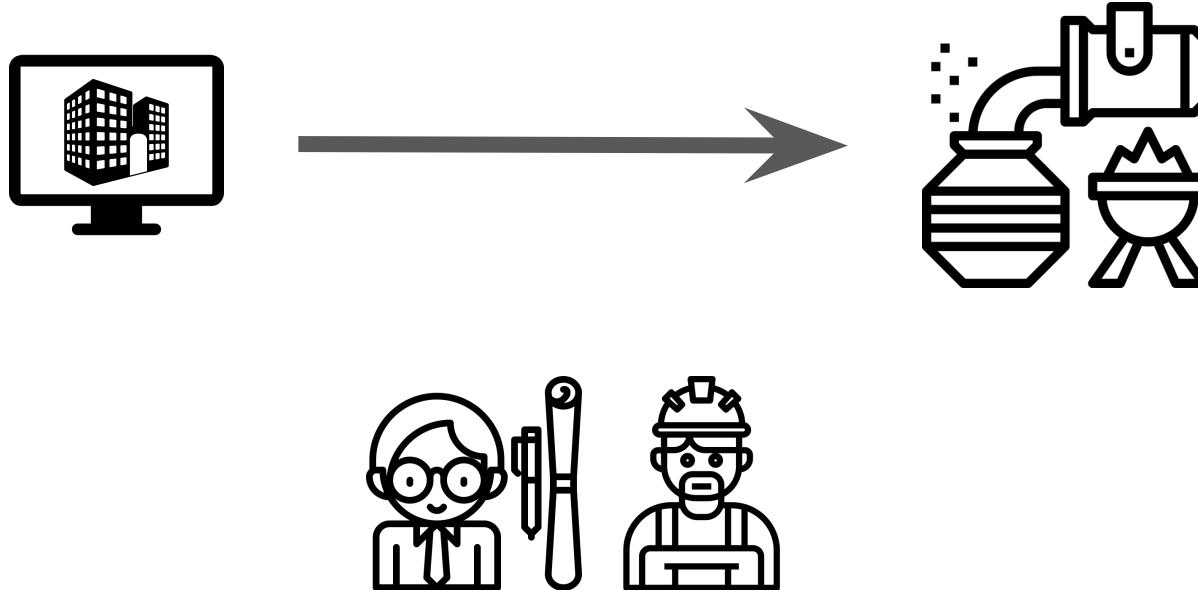
THE ARCHITECT



THE STEEL
CONTRACTOR

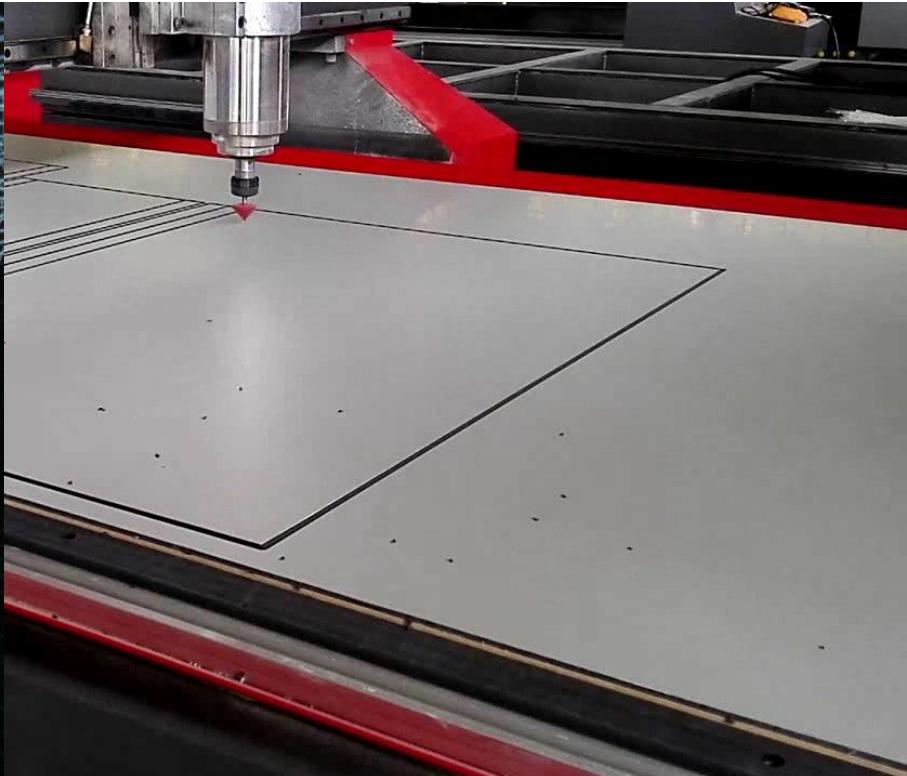
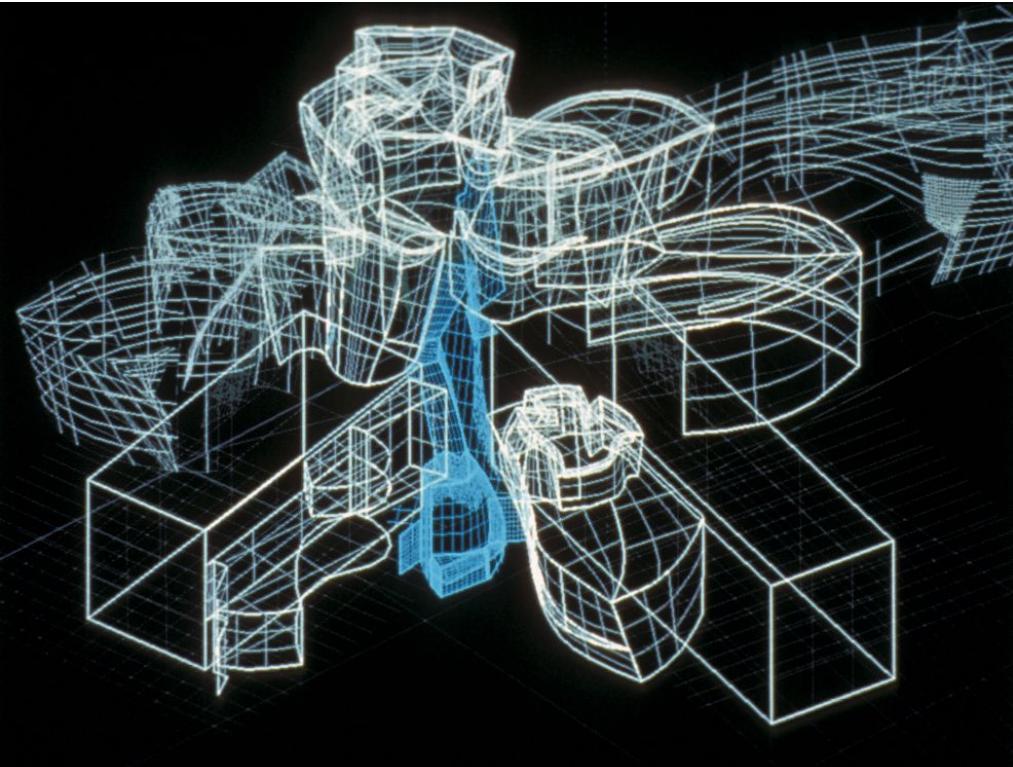
Second Problem

The Solution



Instruments

Direct link between the model and the factory



DATA INFORMED DESIGN

Are project just about visions?

No



Building = Data

CASE (Now Acquired by We Work)



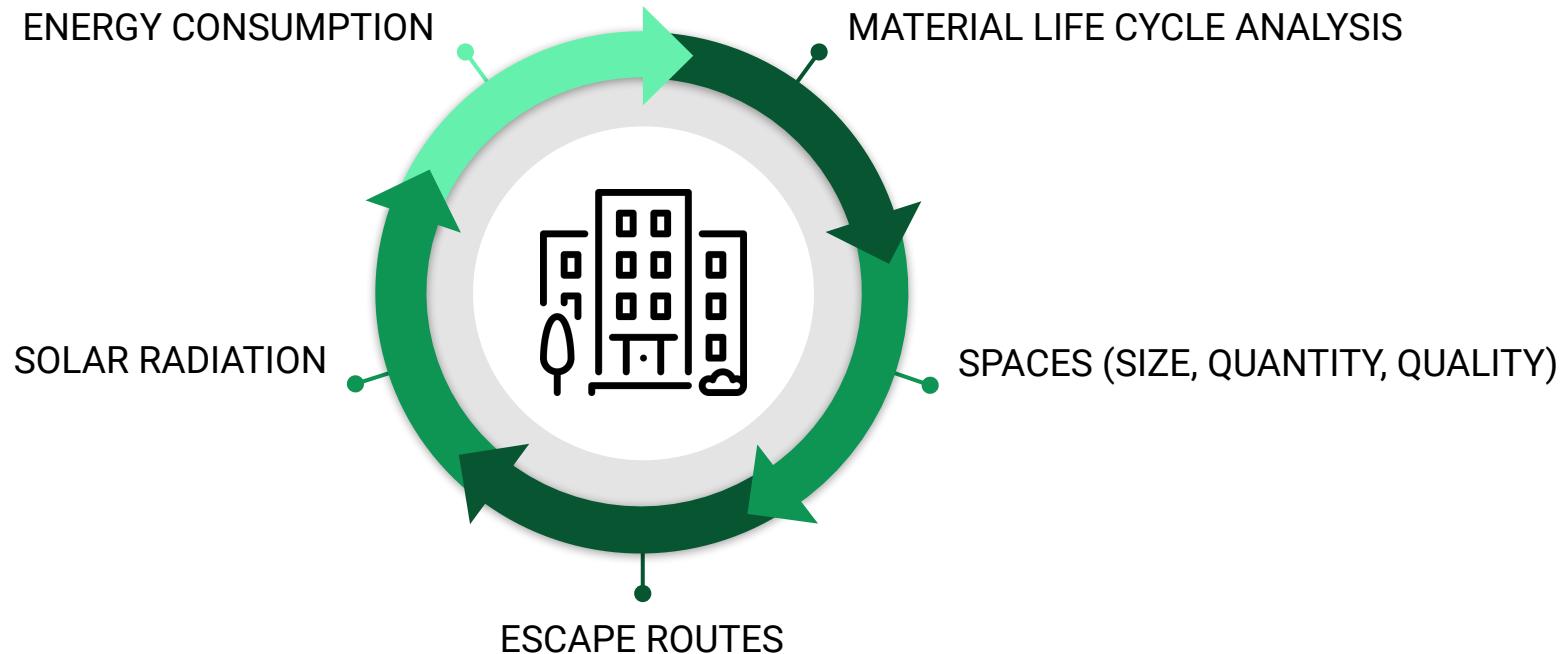
Vision vs Data



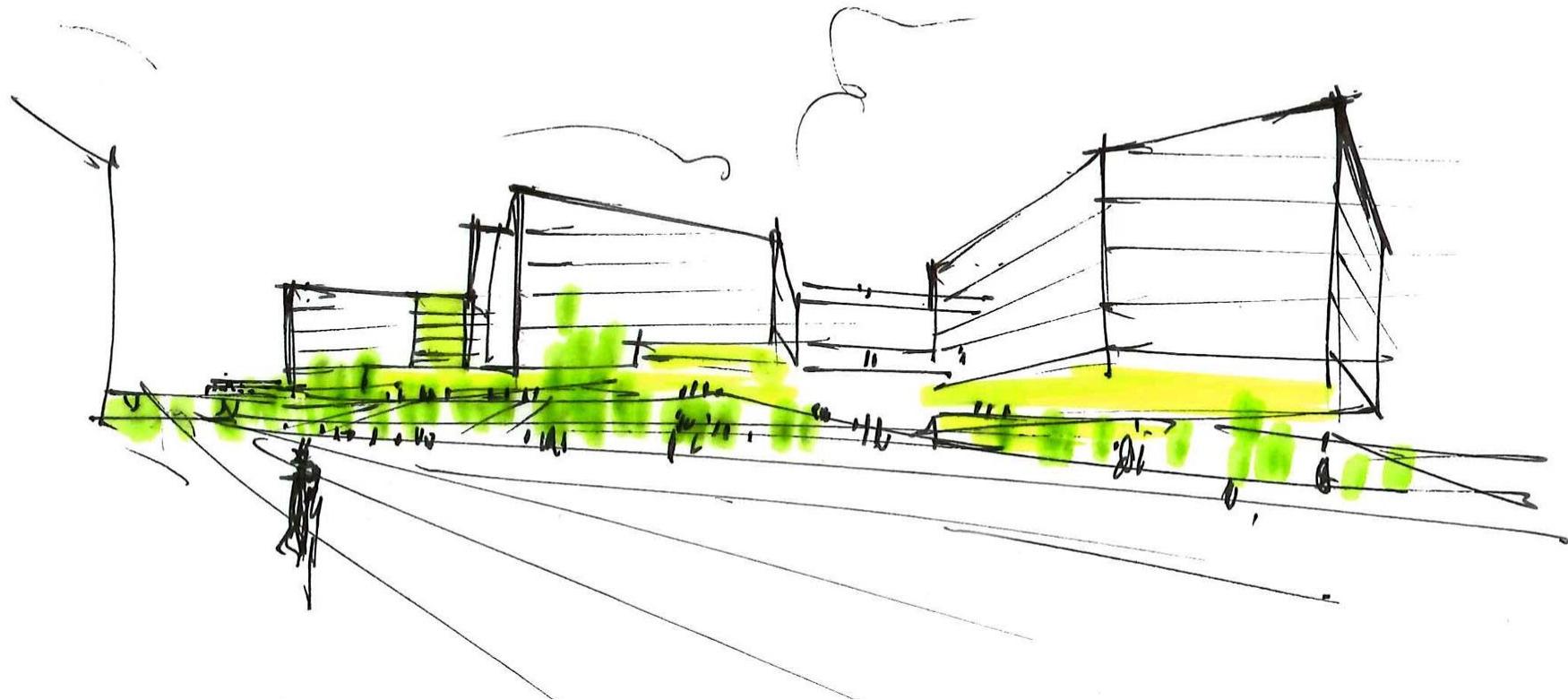
CLIENT REQUIREMENTS &
REGULATIONS

Building = Data

Measuring Quality through Data







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Concept Design Stage Characteristics

Few Information around

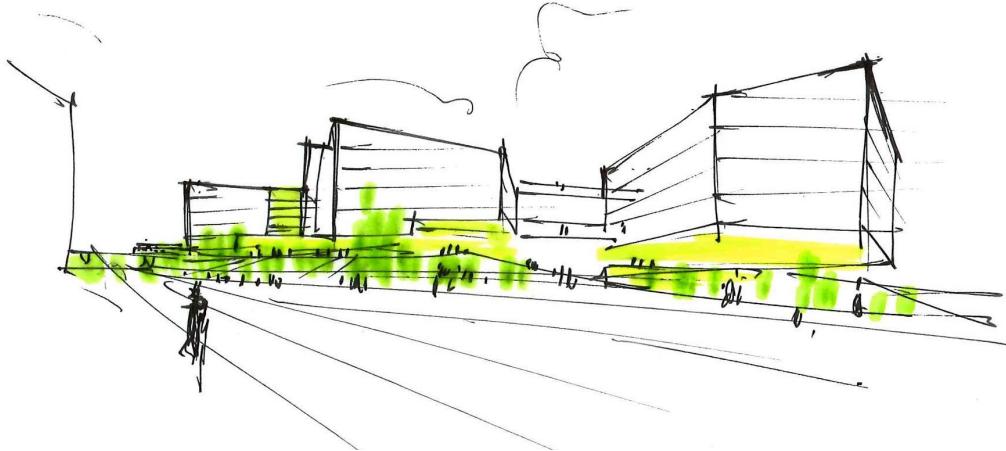
VERY LIMITED AMOUNT OF INFORMATION
ABOUT THE BUILDING

MOST OF THEM WILL CHANGE IN THE FUTURE

IS CRITICAL TO CONCENTRATE ON
RELEVANT DATA

Concept Design Data

Trustable and meaningful data for this stage



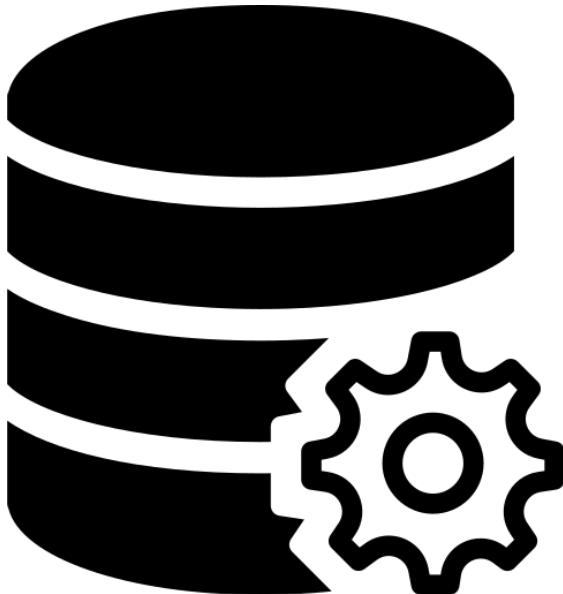
DATA THAT FULFILLS CLIENT REQUEST

DATA THAT CAN HELP
FUTURE PROJECT
OPTIMIZATION

DATA THAT SUPPORT THE
DESIGNER VISION

Client Data

Every project has requirement to meet



CLIENT REQUIREMENTS.

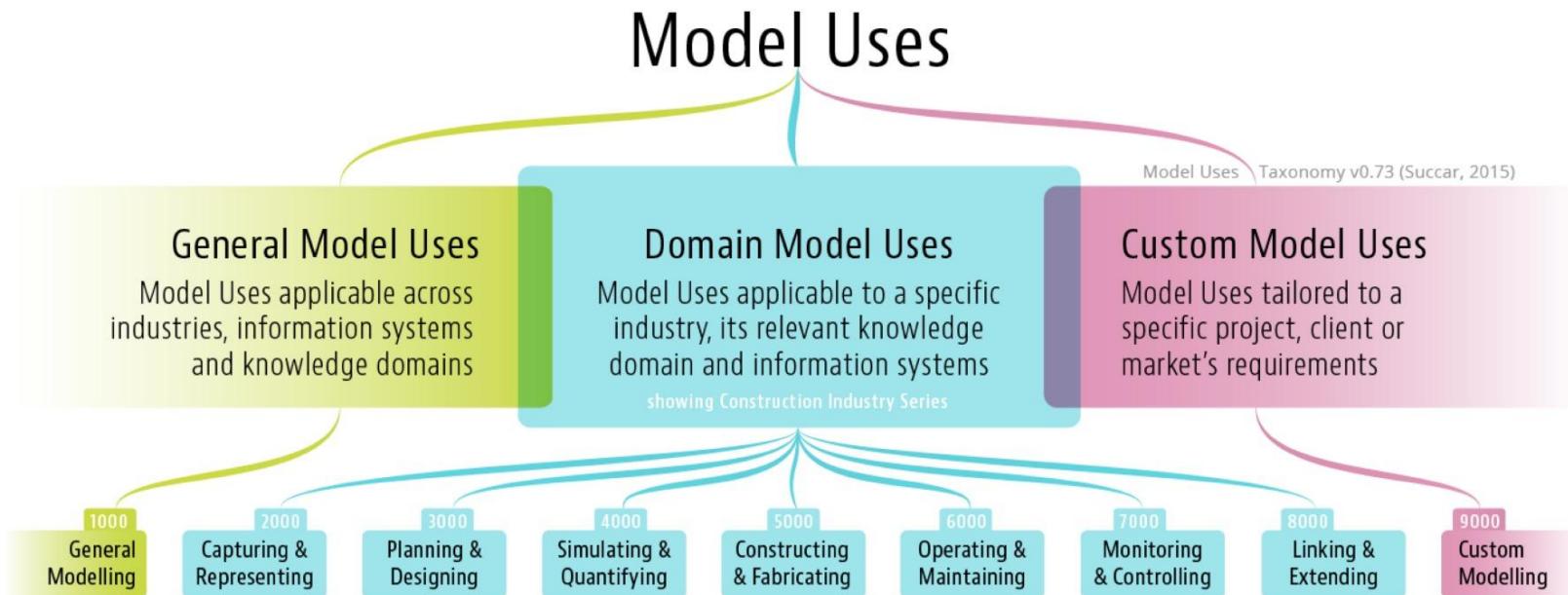
- SPATIAL REQUIREMENT
- FUNCTIONAL PROGRAMME
- BUILDING EFFICIENCY

REGULATIONS:

- CITY REGULATION
- STATE REGULATION
- SAFETY RULES

BIM Model Uses

Based on Data Deliverables





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BIM Model Uses

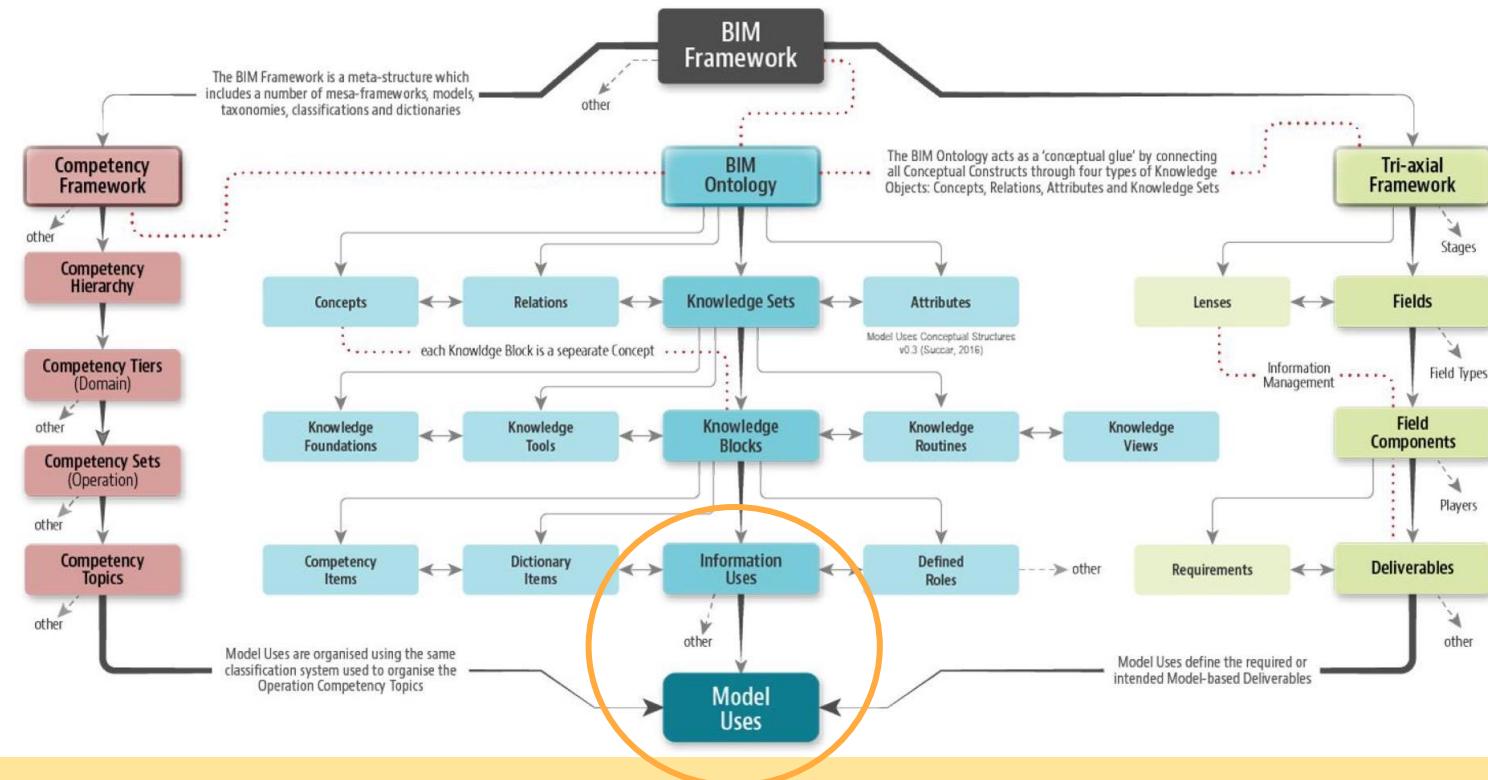
Bilal Succar (2015)

Modular Requirements Clarification Language

performance-centric approach to services' procurement and project delivery

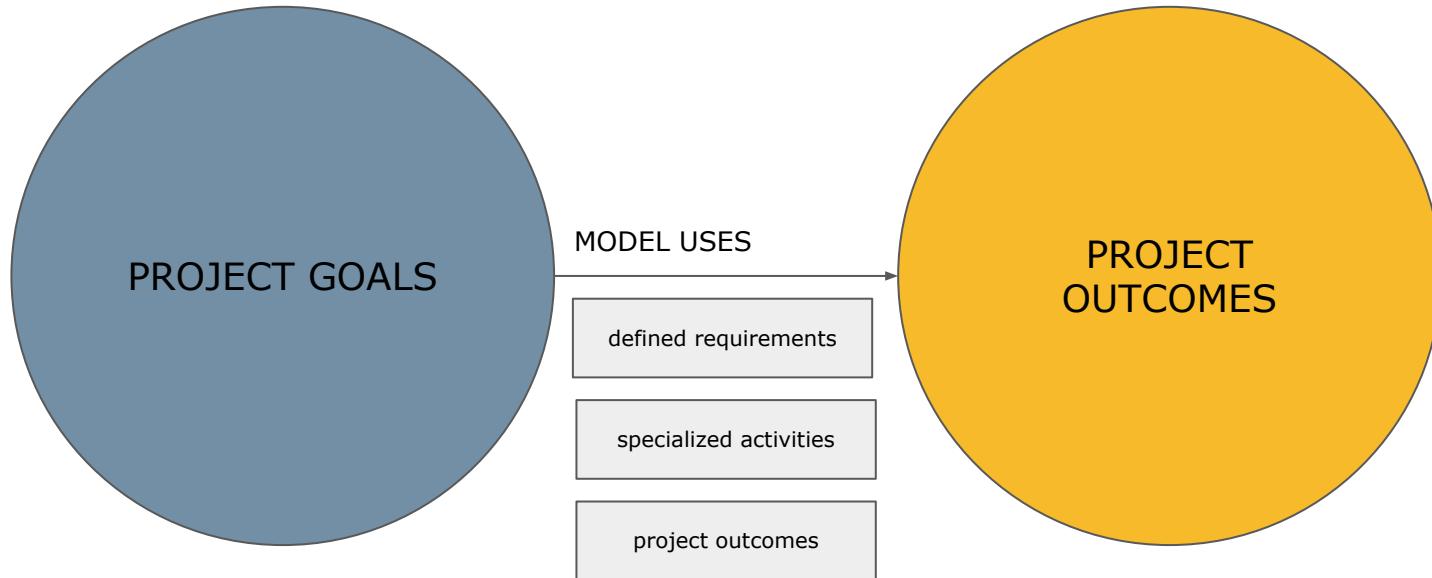
BIM Model Uses

Bilal Succar (2015)



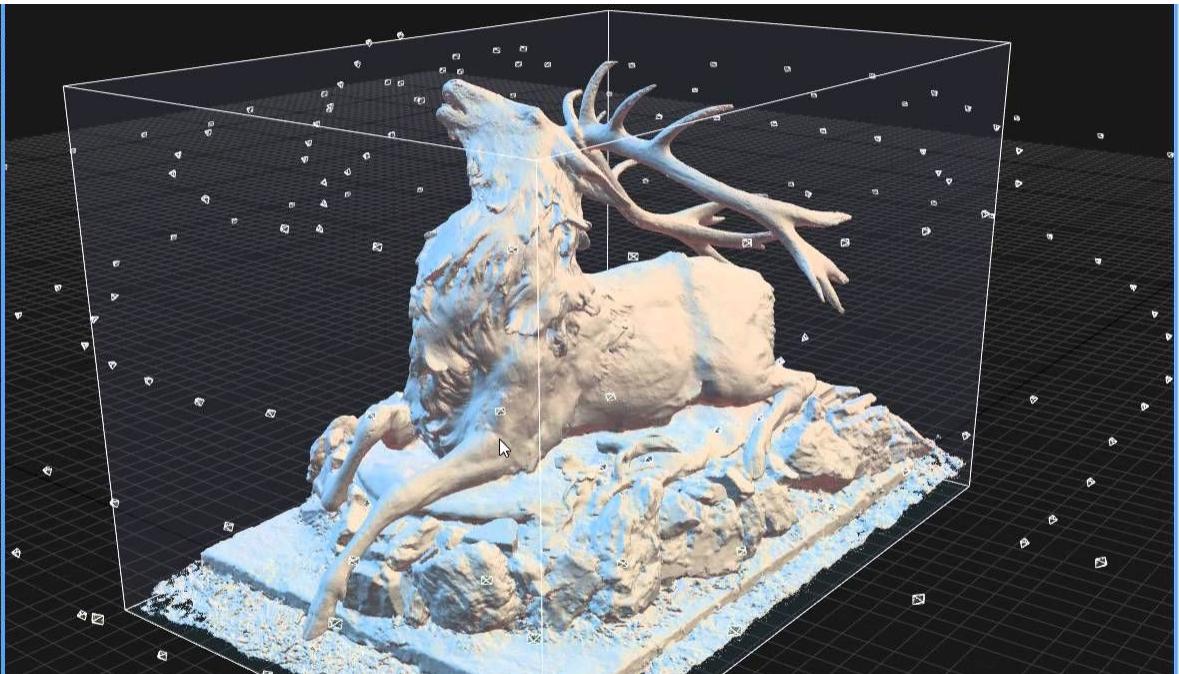
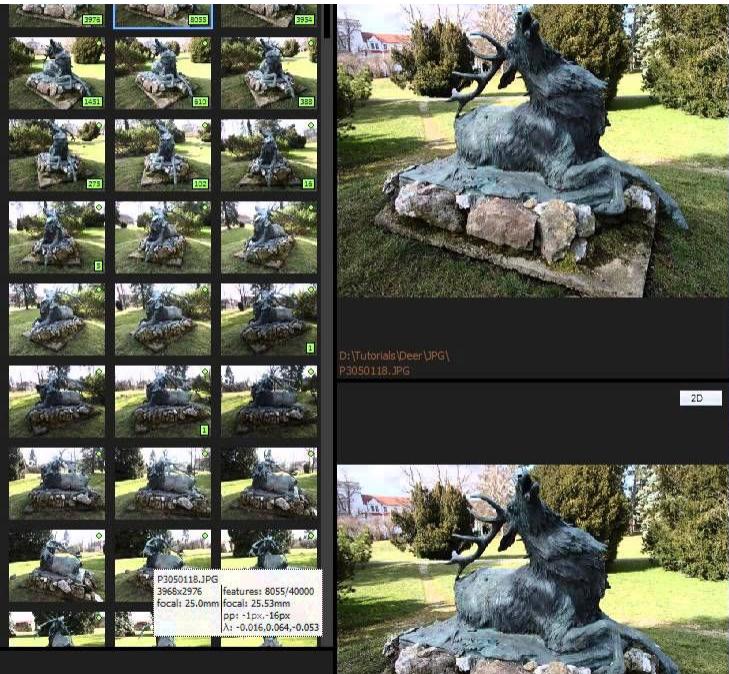
BIM Model Uses

Bilal Succar (2015)



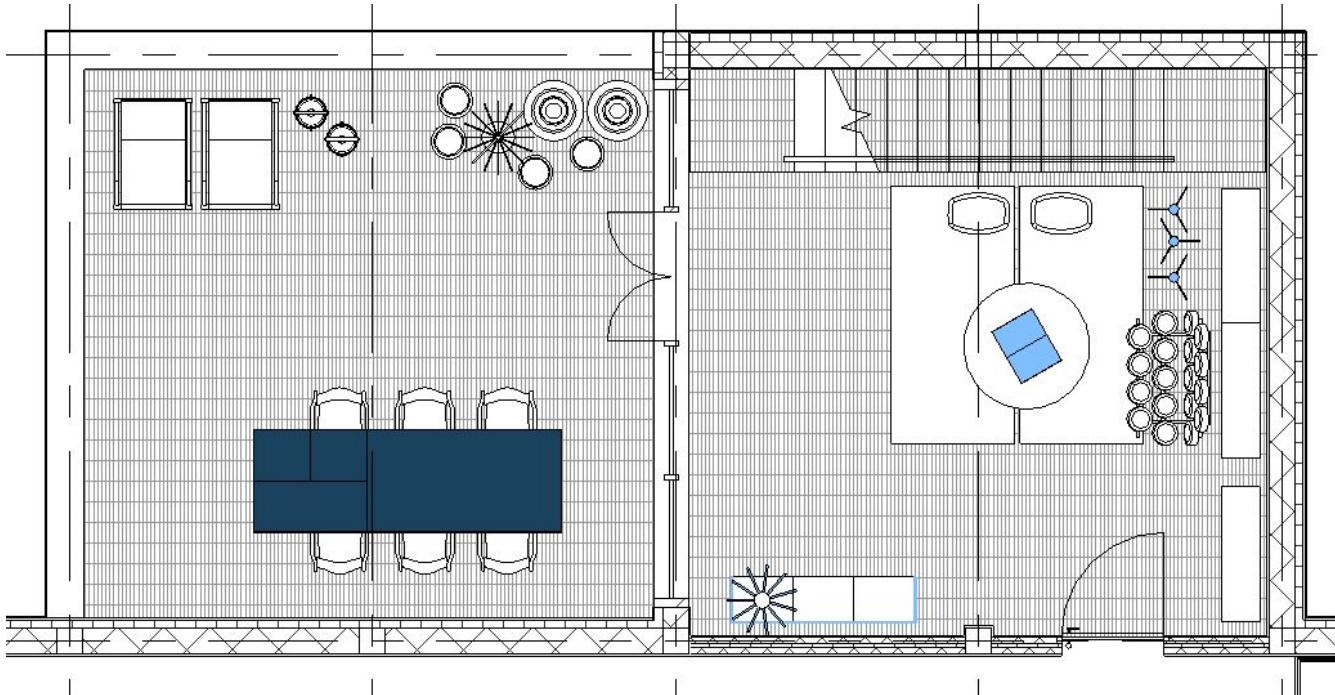
BIM Model Uses: Capturing & Representing

Bilal Succar (2015)



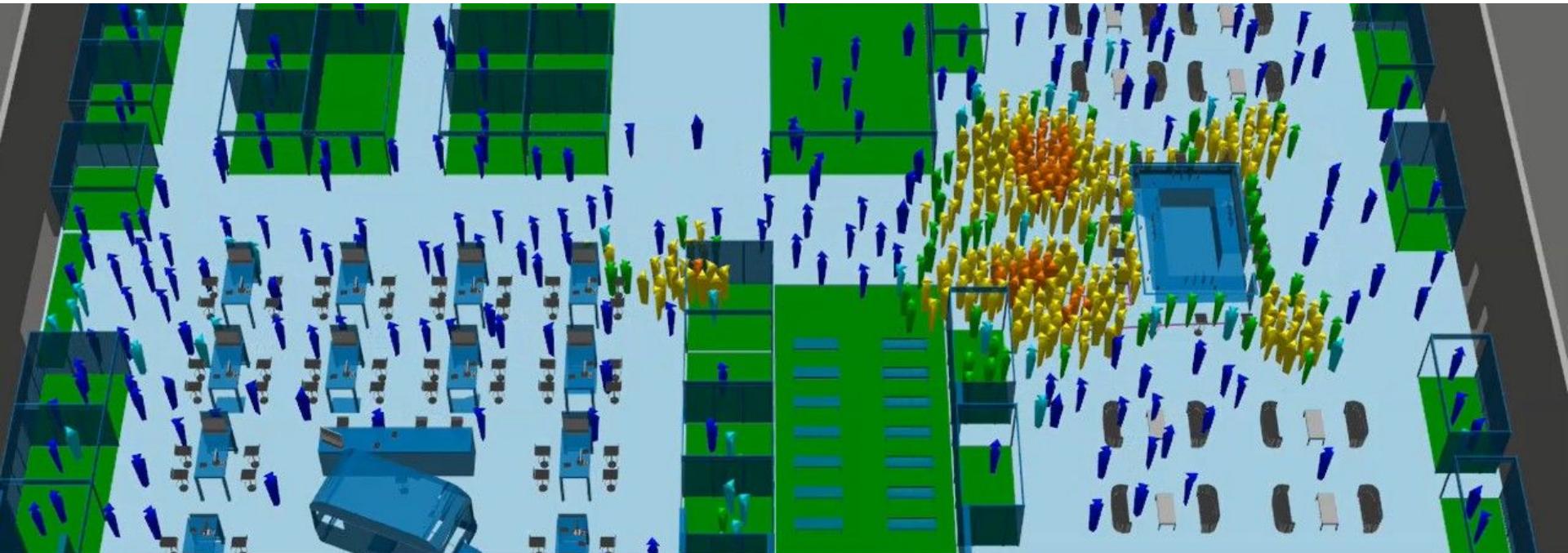
BIM Model Uses: Planning & Designing

Bilal Succar (2015)



BIM Model Uses: Simulating & Quantifying

Bilal Succar (2015)



BIM Model Uses: Constructing & Fabricating

Bilal Succar (2015)



BIM Model Uses: Operating & Maintaining



Bilal Succar (2015)

BIM Model Uses: Monitoring & Controlling

Bilal Succar (2015)



WORKSHOP

Vision, Data, Model Uses

CLIENT REQUIREMENTS

WHAT THE CLIENT
WANTS

VISION

THE BUILDING YOU
WANT TO DELIVER AS
ANSWER TO CLIENT
REQUIREMENTS.

RELEVANT DATA TO DELIVER

RELEVANT DATA TO
SUPPORT YOUR
BUILDING

MODEL USES

THE MODEL USES
GOALS ON YOUR
PROJECT.

TOOLS AND WORKFLOWS

CHOOSE YOUR RIGHT
TOOLS

KLO2 – Does your model reflects your ideas? Setting up a BIM Model for the conceptual design stage.

- Learn the basics of model management
 - Learn how to translate a BIM Objective into actions on your Revit Model
 - Learn how to create data suitable for the conceptual design stage
-

CHOOSE YOUR OWN OBJECTIVES

BUT NOT NOW, PLEASE



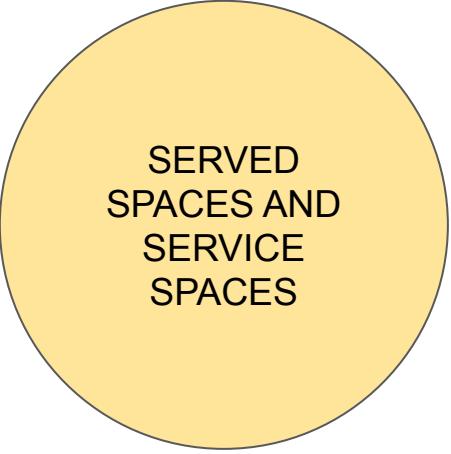
CHOOSE YOUR OWN TOOLS

BUT NOT NOW, PLEASE

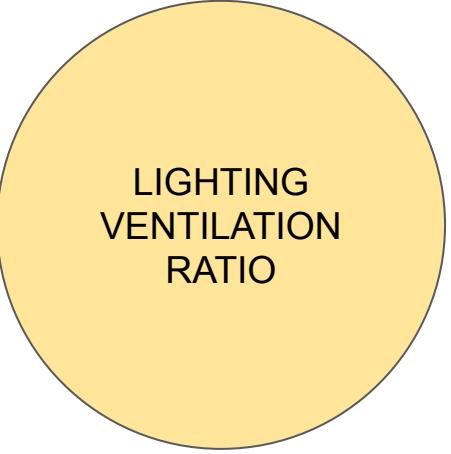


CHOOSE YOUR OWN ANALYSIS

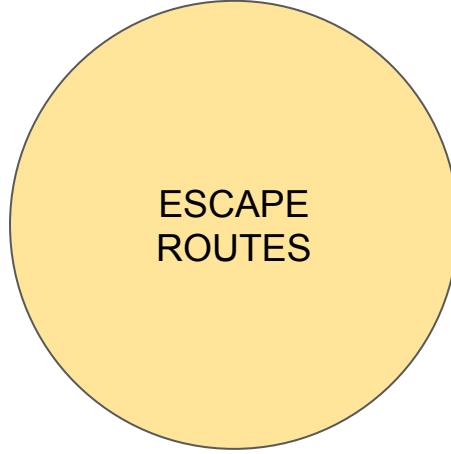
BUT NOT NOW, PLEASE



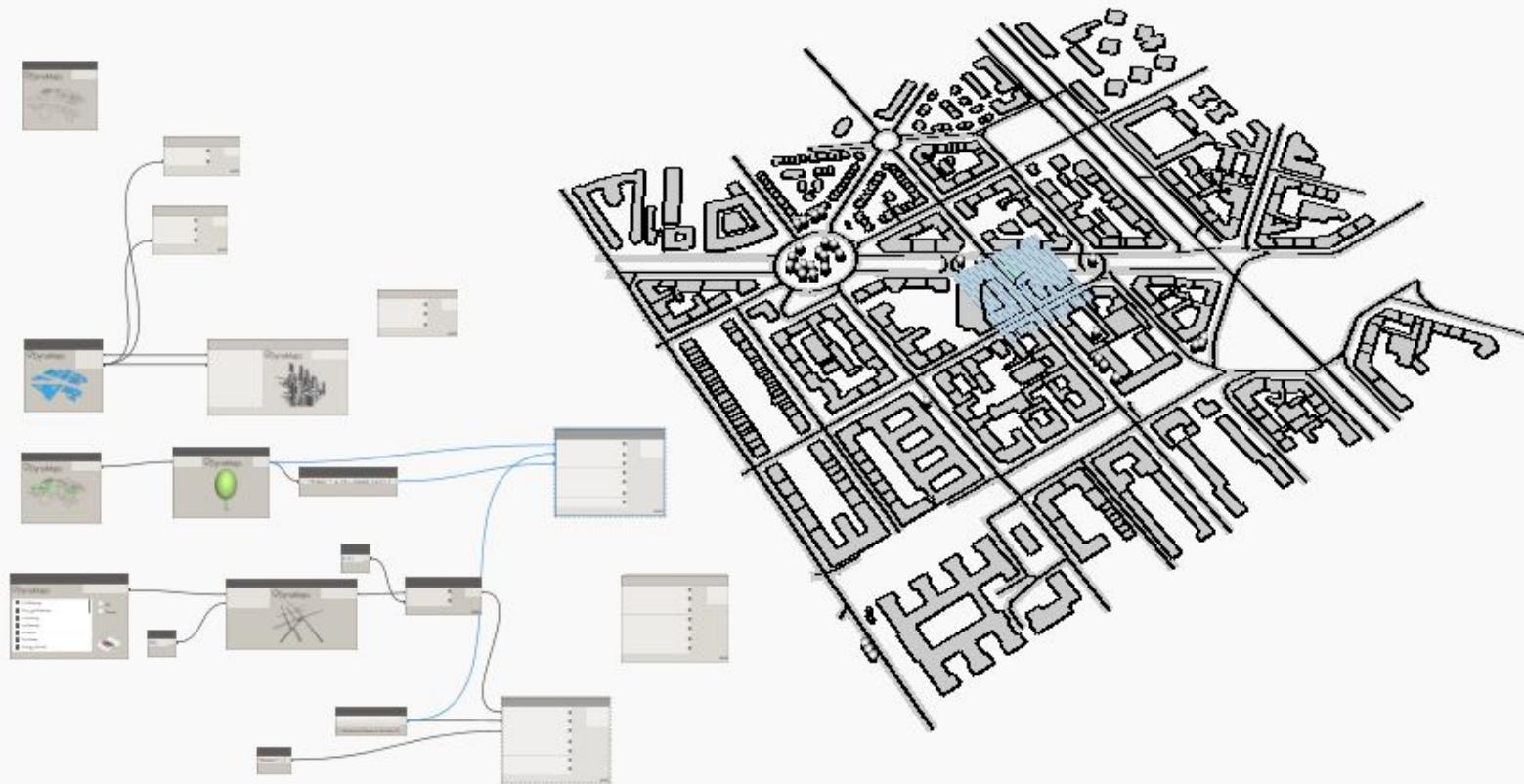
SERVED
SPACES AND
SERVICE
SPACES



LIGHTING
VENTILATION
RATIO



ESCAPE
ROUTES



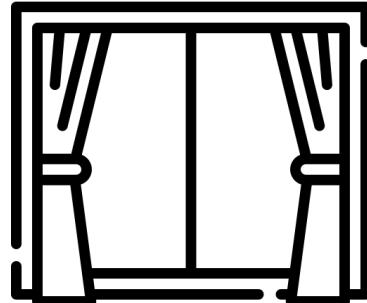
SERVED SPACES AND SERVICE SPACES

SERVICE SPACES / SERVED SPACES =< 25%



LIGHTING VENTILATION RATIO

WINDOW AREA / ROOM AREA => 0.125



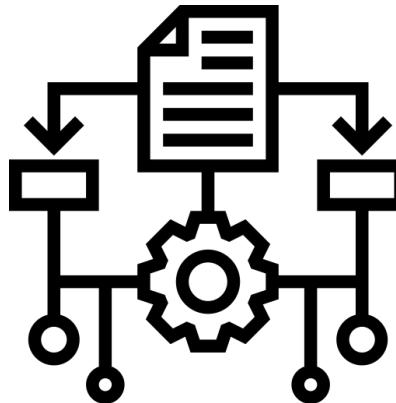
Travel Path

OUT OF THE BUILDING IN 35 meters



Building Programme

Building Footprint: 30 - 60 %
Square Footprint 300 m²
Building Footprint: 5000 m³
Floor Efficiency



Quality Analysis

For Design Evaluation

OPTION 1

OPTION 2

OPTION 3

WORKSHOP 2 - MODEL MANAGEMENT

KLO3 – Data evaluation, review and strategies for a better evaluation

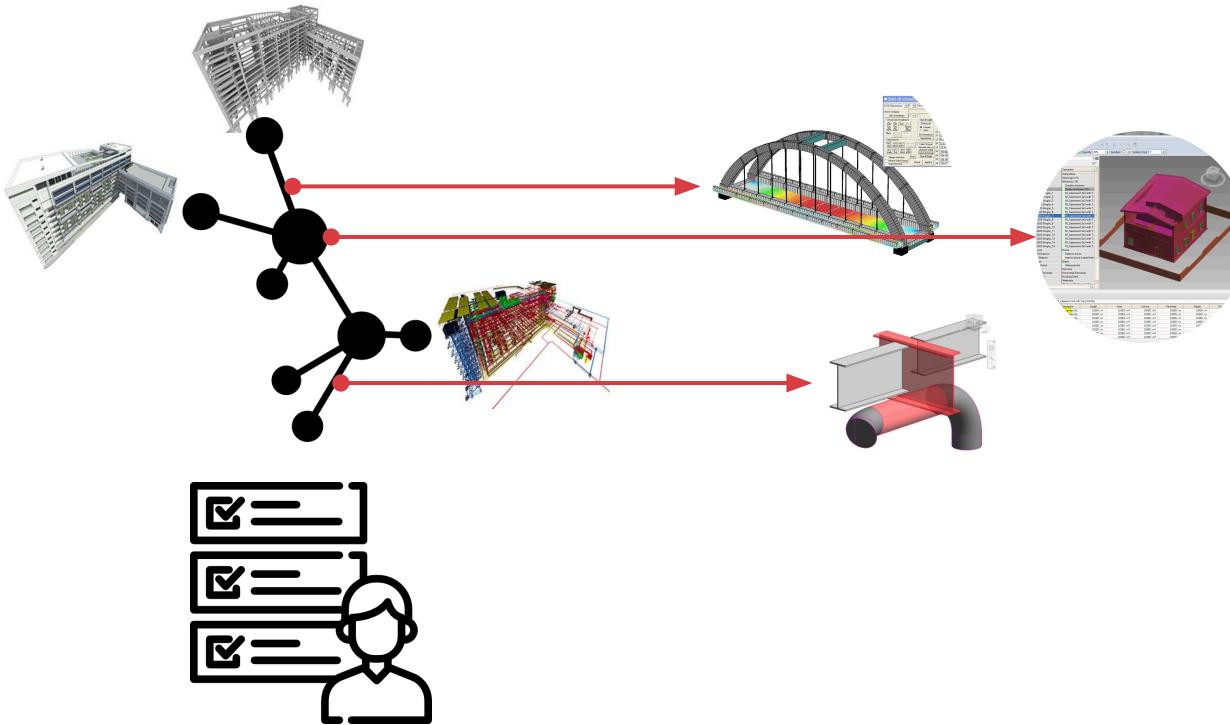
- Learn how to evaluate data from conceptual design in BIM
 - Learn what is an Asset Model
 - Learn the real benefits available from a full application of BIM to a conceptual design stage
-

Data Visualization

Information is not Data



BIM People Daily Activities



POWER BI

WORKSHOP 3 - DATA VISUALIZATION

CONCLUSIONS

Choose/Build your own tools



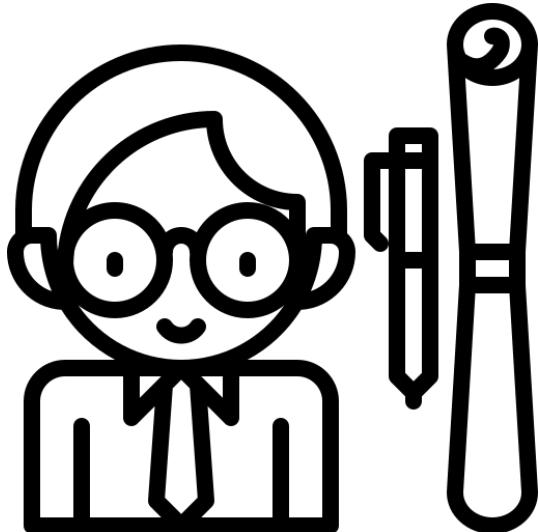
Choose your own Analysis



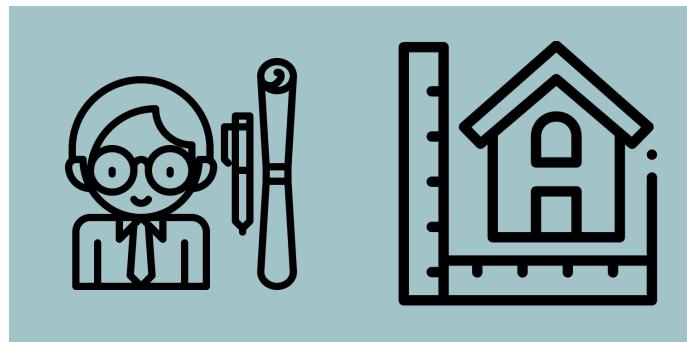
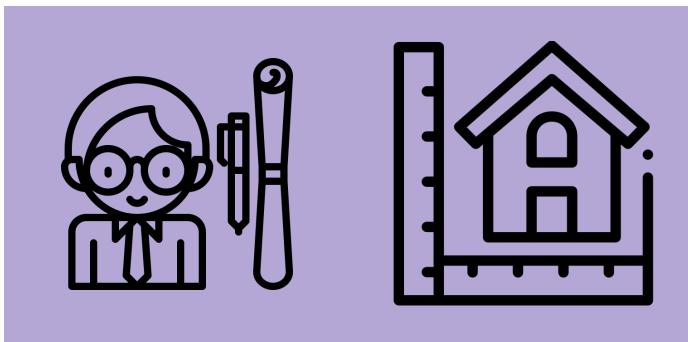
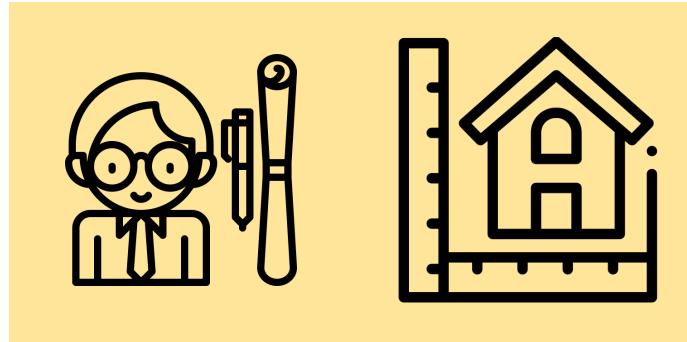
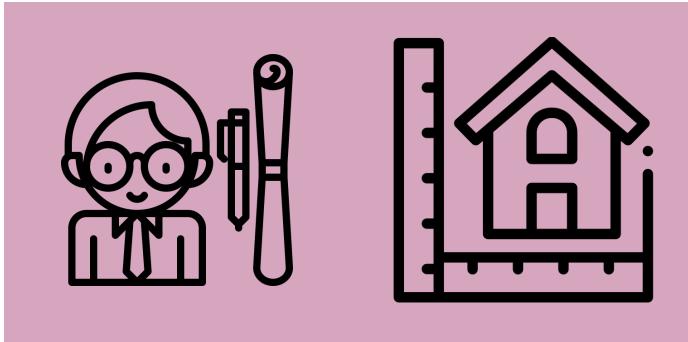
Don't Stop



The Client Role in BIM



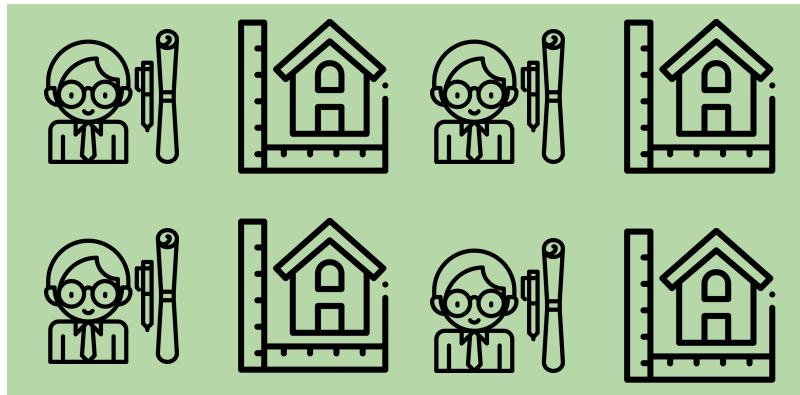
The Client Role in BIM



The Client Role in BIM



FOLLOW THE MY RULES (Analysis)



THANK YOU!!!
