Field data - the black hole in bringing planning and construction execution together

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A company of
umdaschgroup
ventures

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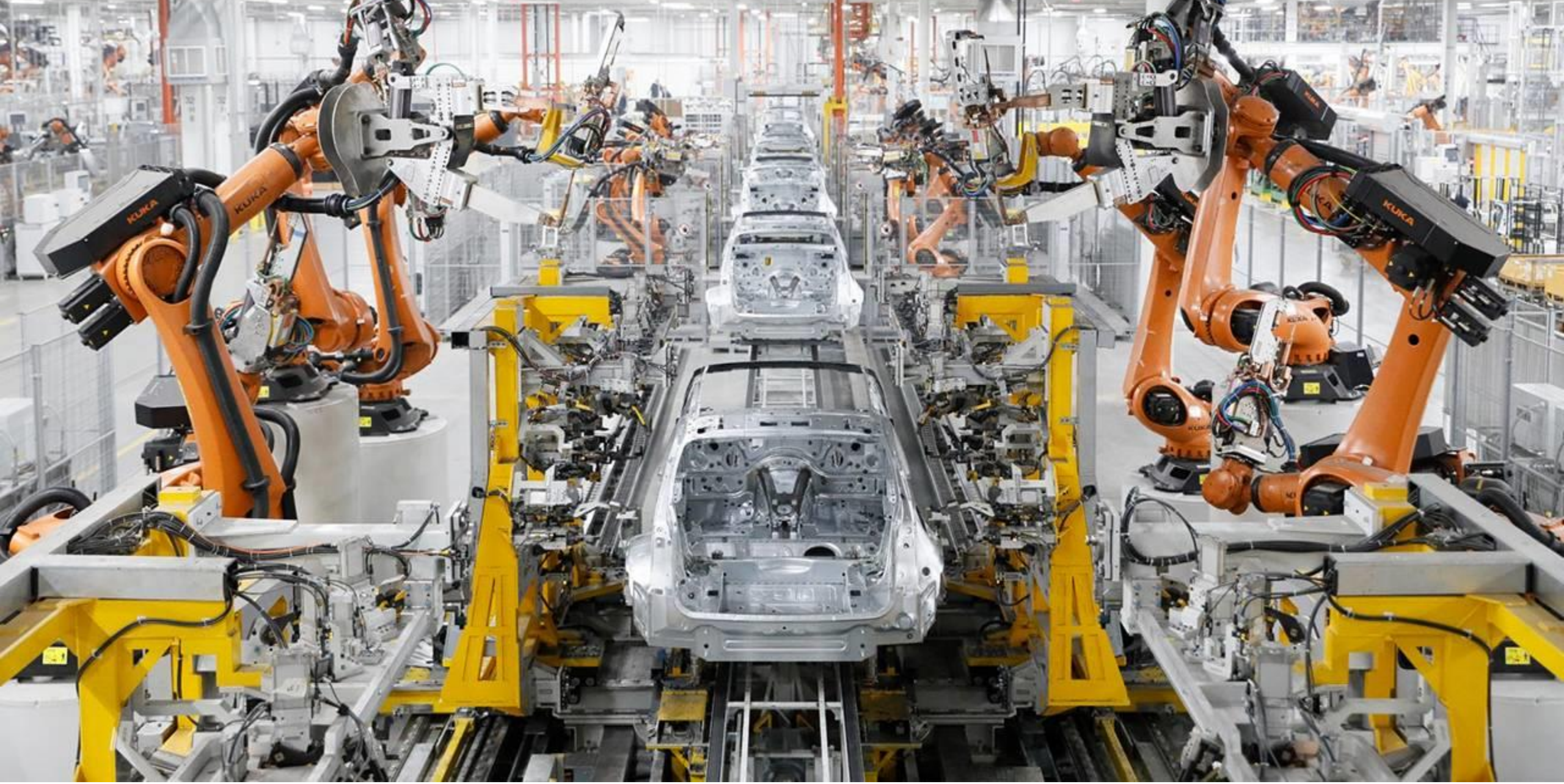

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Does the number of variations define complex vs. complicated?

306.000.000
The world‘s largest ant population

100.000.000.000.000.000.000
The set of variations of a BMW

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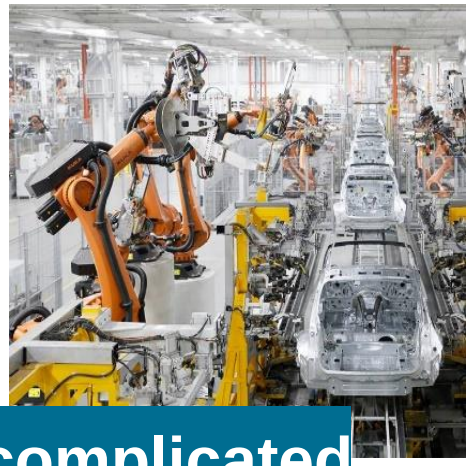
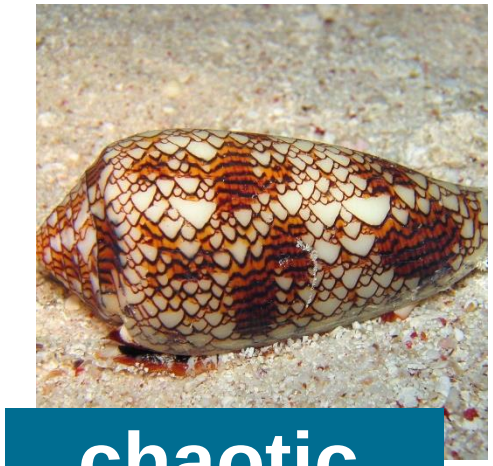
Cynefin framework
of systems

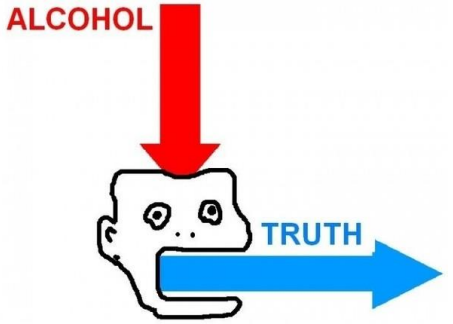
complex



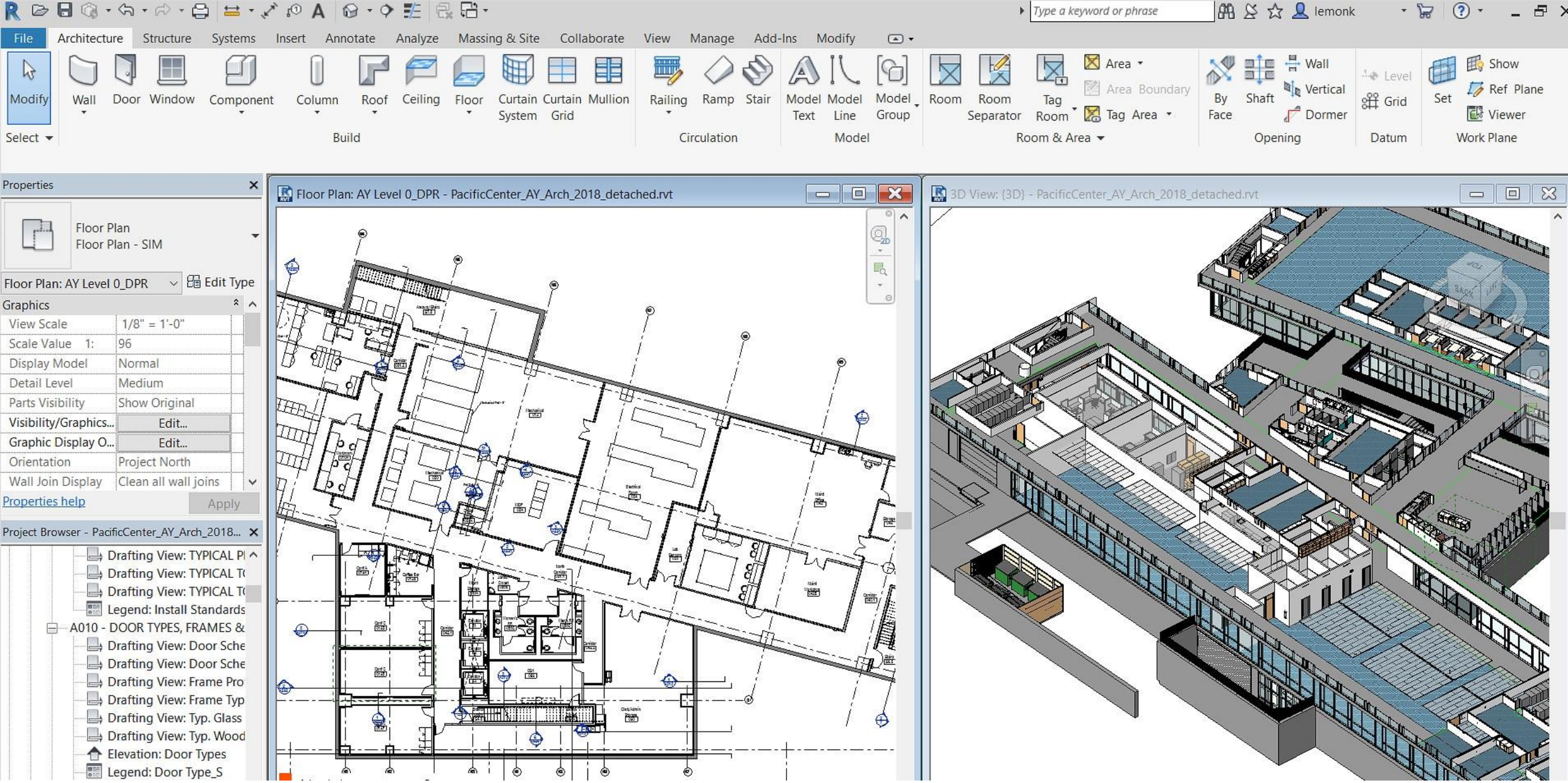
complicated



chaotic



obvious



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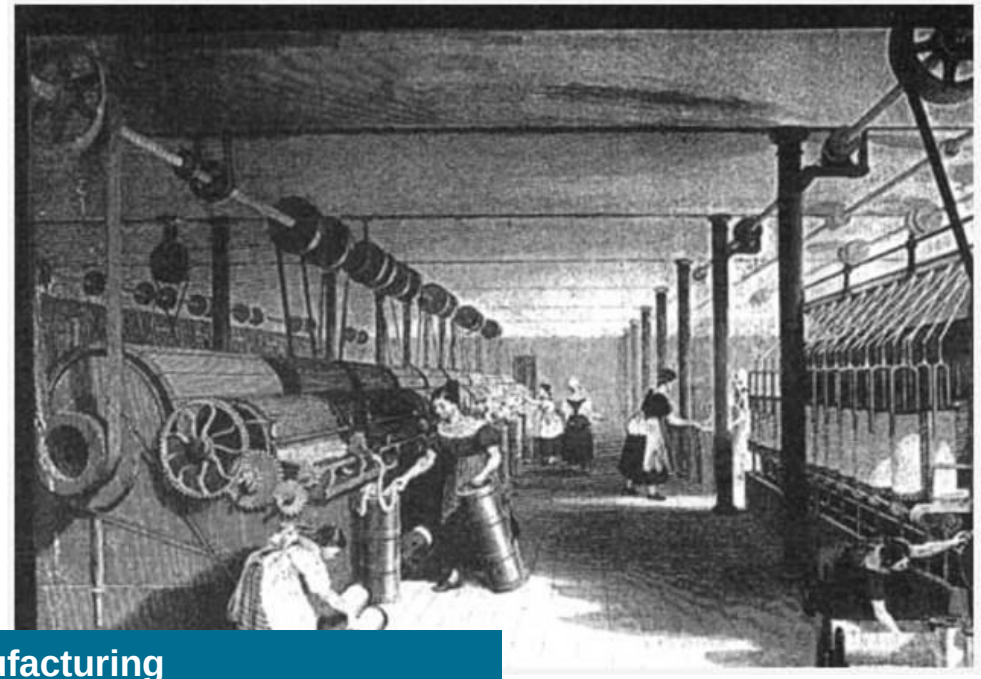
Variation follows the process
or vice versa?

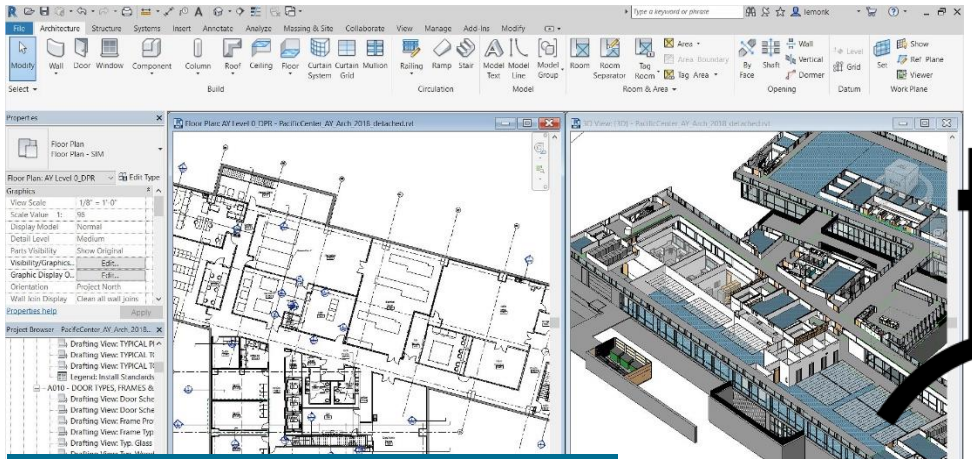


Manufacturing
Variations follow the process

Construction
Process follows the variations

Chinese wall

between planning and execution



Manufacturing
Variations follow the process

Construction
Process follows the variations

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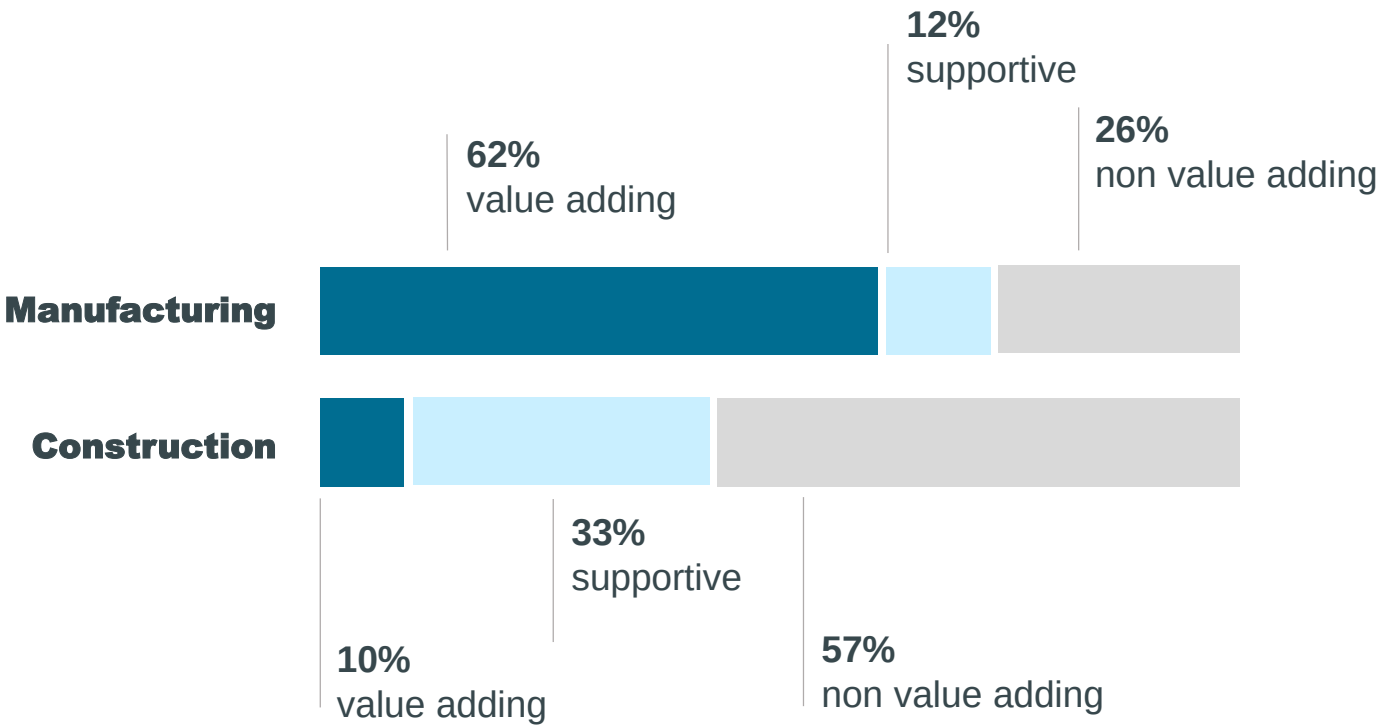
Productivity potential in construction



Source: Fraunhofer Institute, McKinsey - Reinventing Construction (2017)

57%
Of construction time is spent with non value adding activities

Productivity growth p.a. throughout last 20 years

Manufacturing +3,6%

Construction +1,0%

1,4 trillion €
Global potential in more production construction per year

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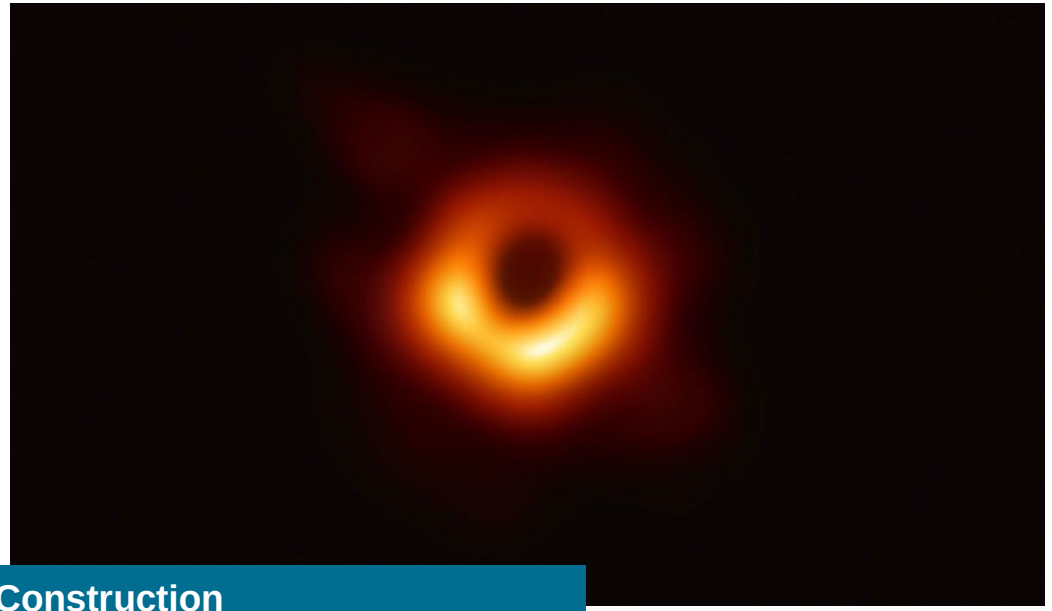
Field data from IoT
for plan vs. as-is improvements

Manufacturing
Plan, measure & improve cycle



Construction

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Continuous improvement

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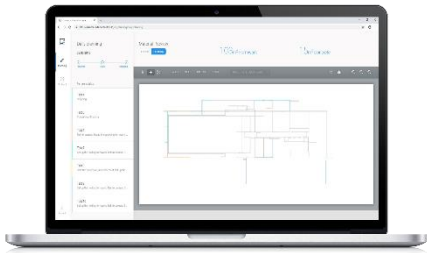
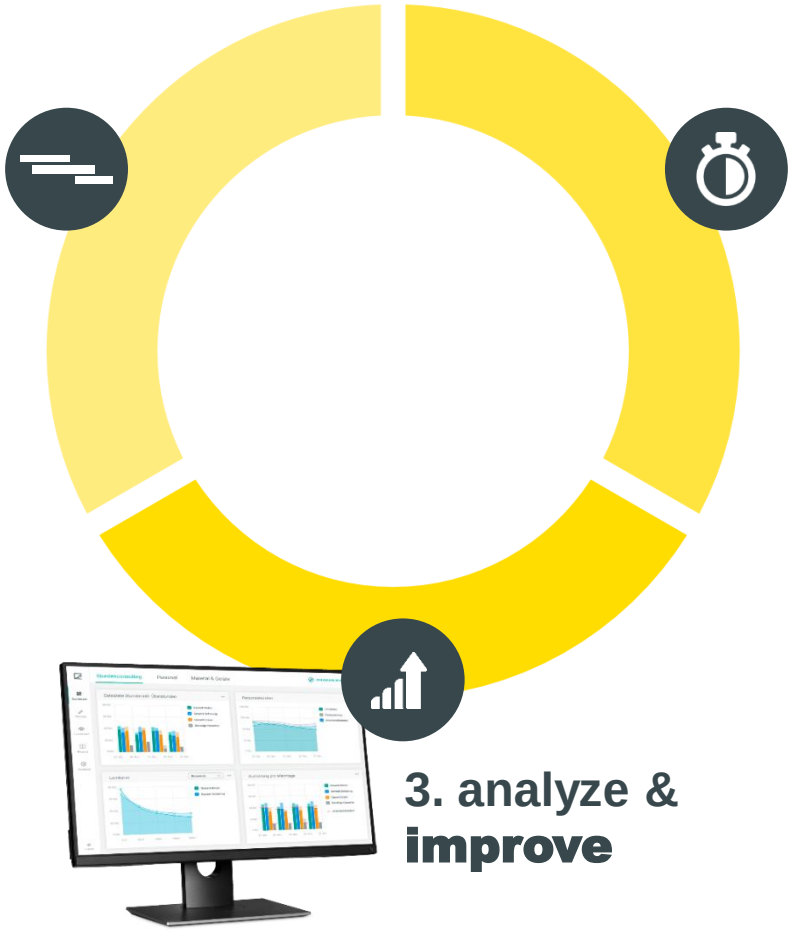
PLAN | MEASURE | IMPROVE

1. digital
takt planning





2. execute &
measure

3. analyze &
improve

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digital
takt planning

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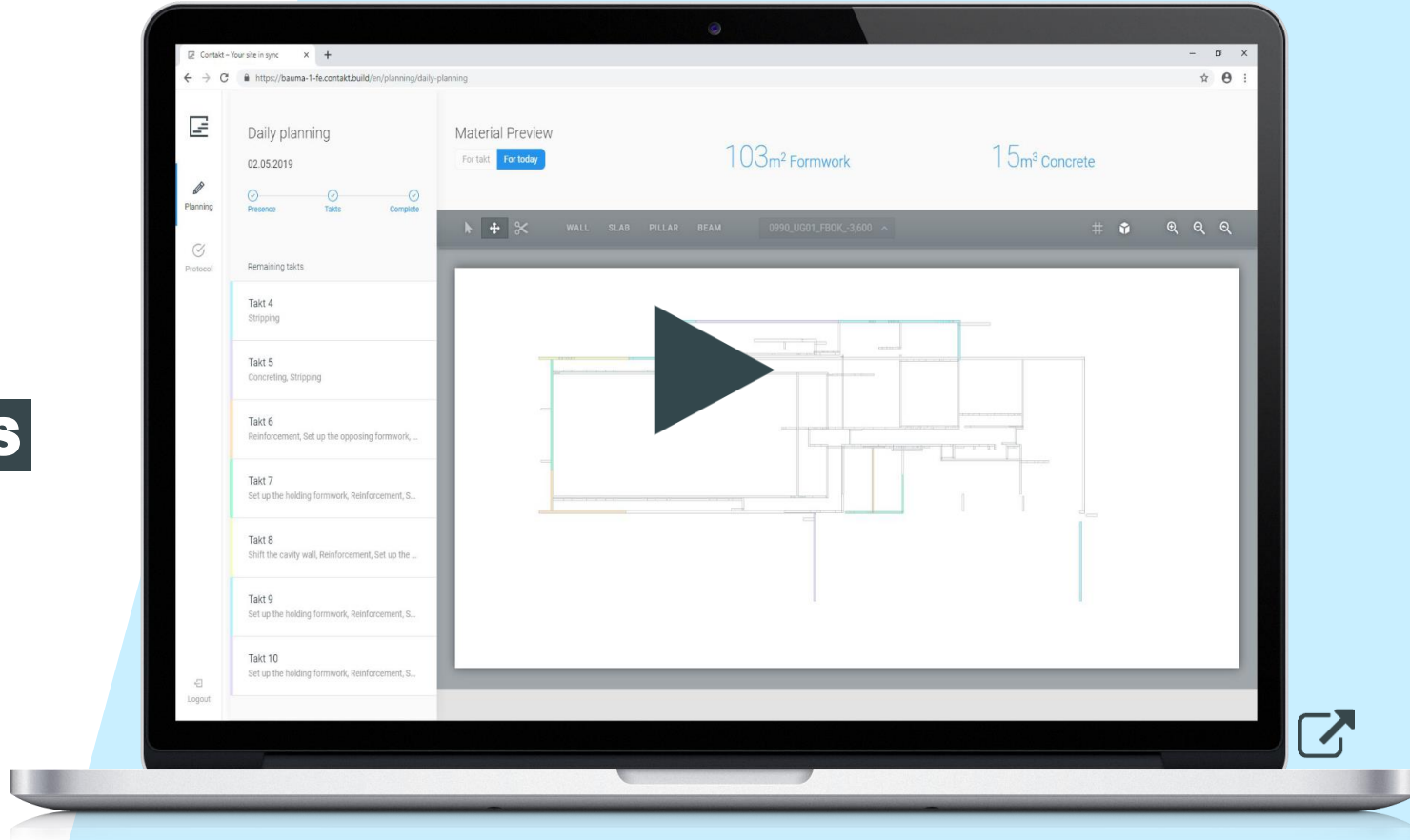
1

Simple takt scheduling for a daily & weekly schedule according to

LEAN CONSTRUCTION METHODS

in a user friendly environment



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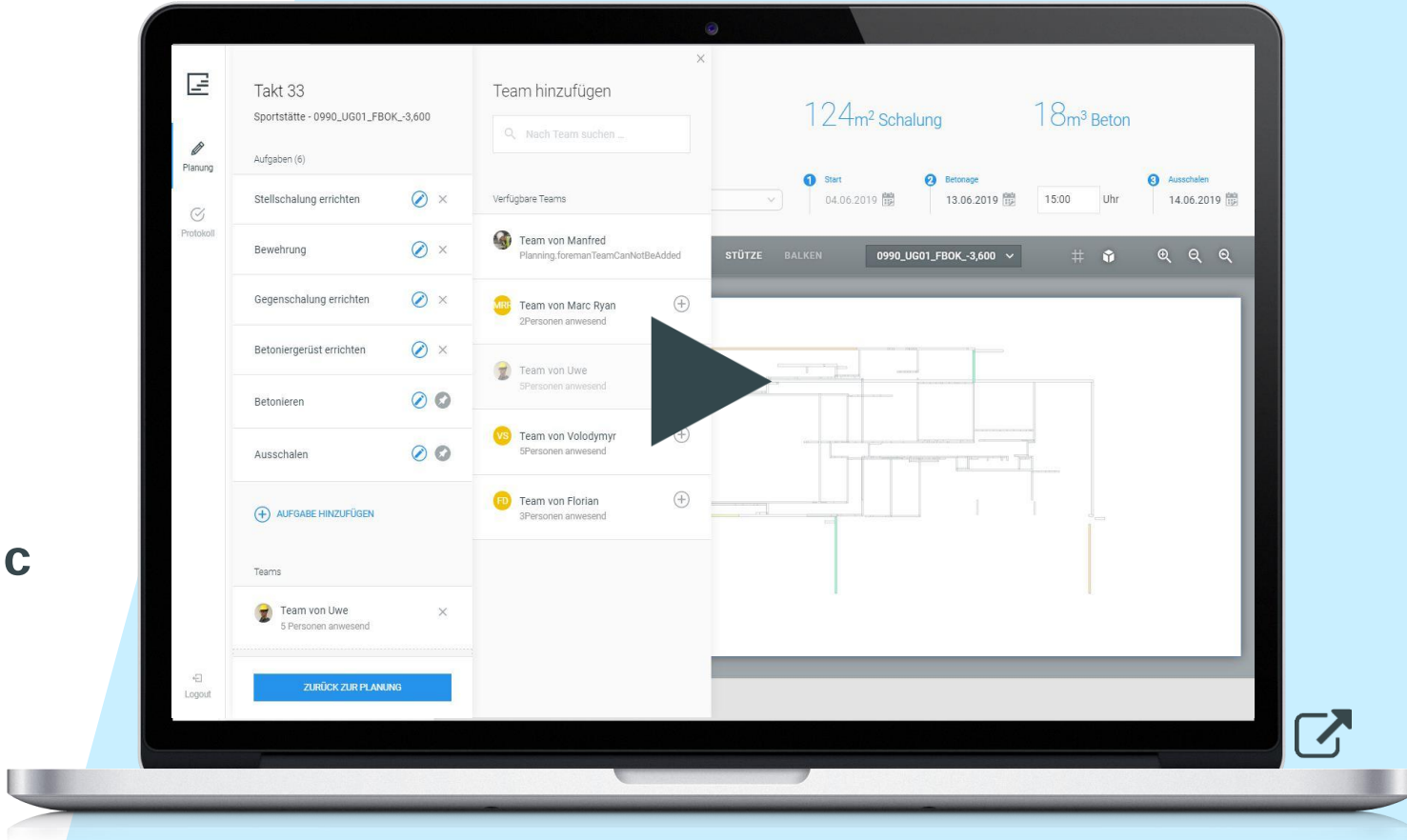
1

Perfectly coordinated
DAILY PLAN
with a clear „who is doing what with which team and which material?“ logic



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EXECUTE & MEASURE

Precisely coordinated tasks and

LIVE PERFORMANCE-MONITORING

because of IoT and manual field data

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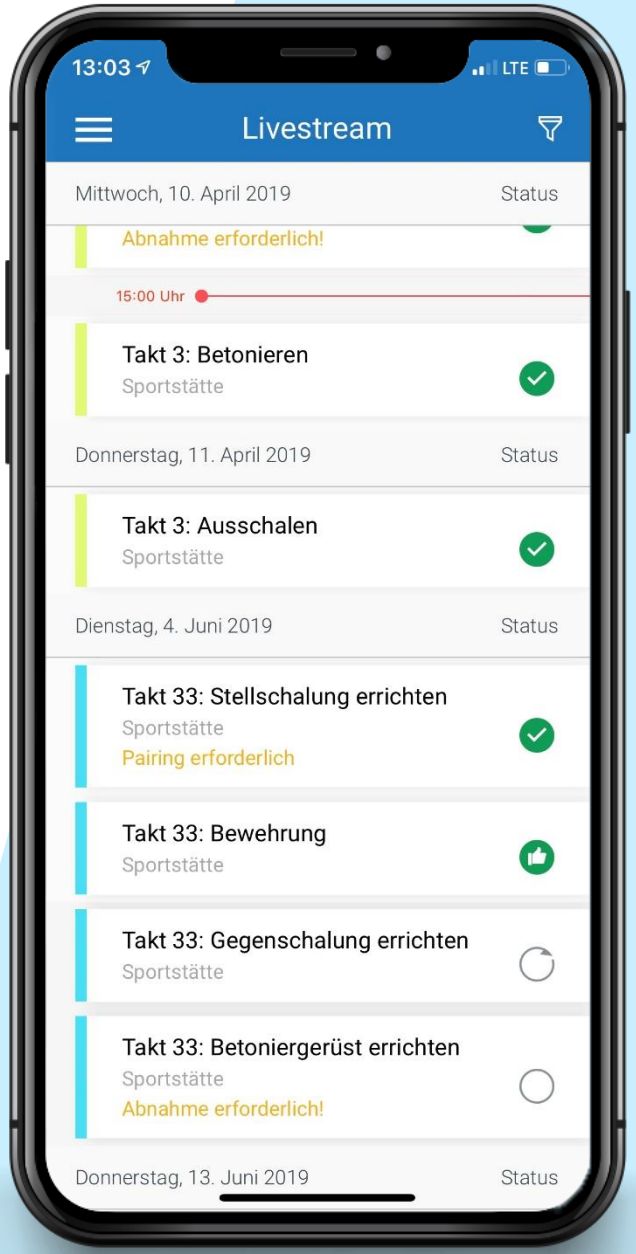
2
LIEBHERR

2

Efficient team communication with synchronized

TASK ASSIGNMENT AND COORDINATION



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2

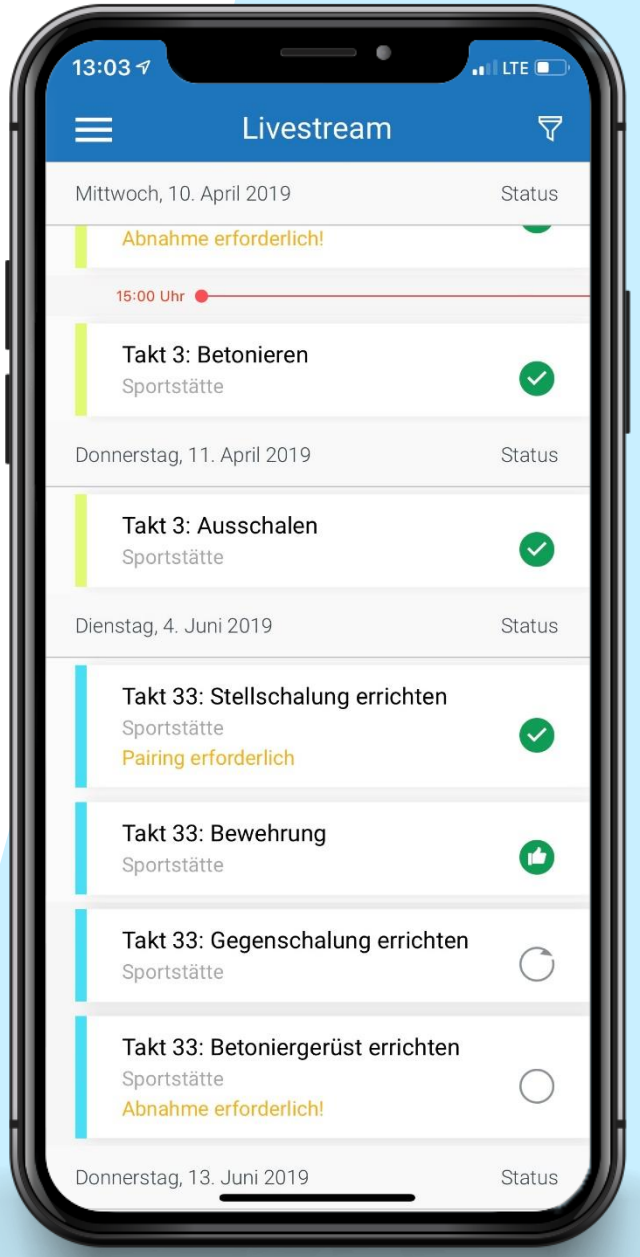
Defined roles and responsibilities

Transparent task assignment
(multilanguage)

Coordination of teams
(who is doing what until when)

Picture & performance documentation

Improved team communication



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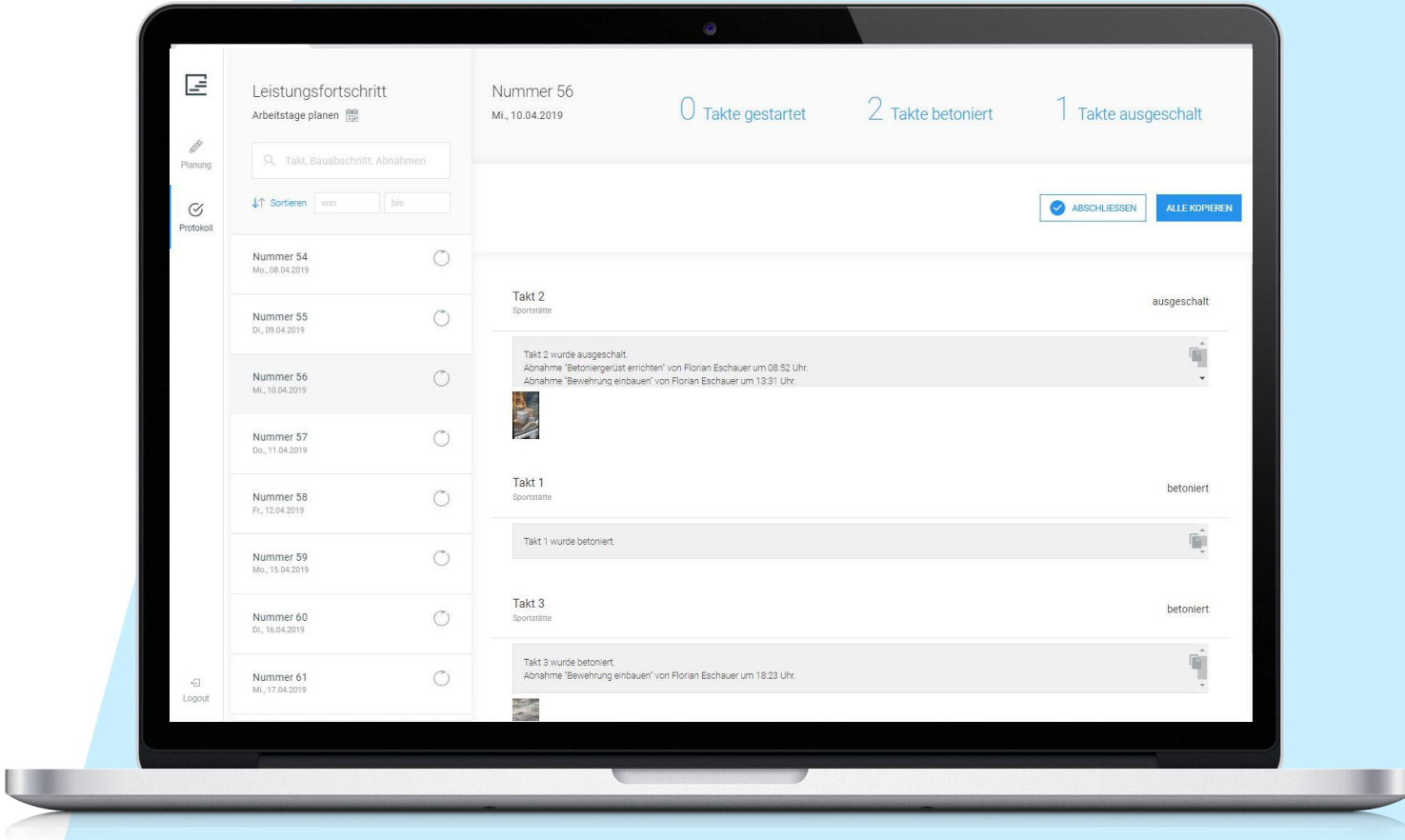
2

Automatic journaling of fulfilled and planned tasks for a real real-time

FULFILLMENT TRACKING

on site and remote



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ANALYZE & IMPROVE

Construction progress and PRODUCTIVITY of all projects at a glance

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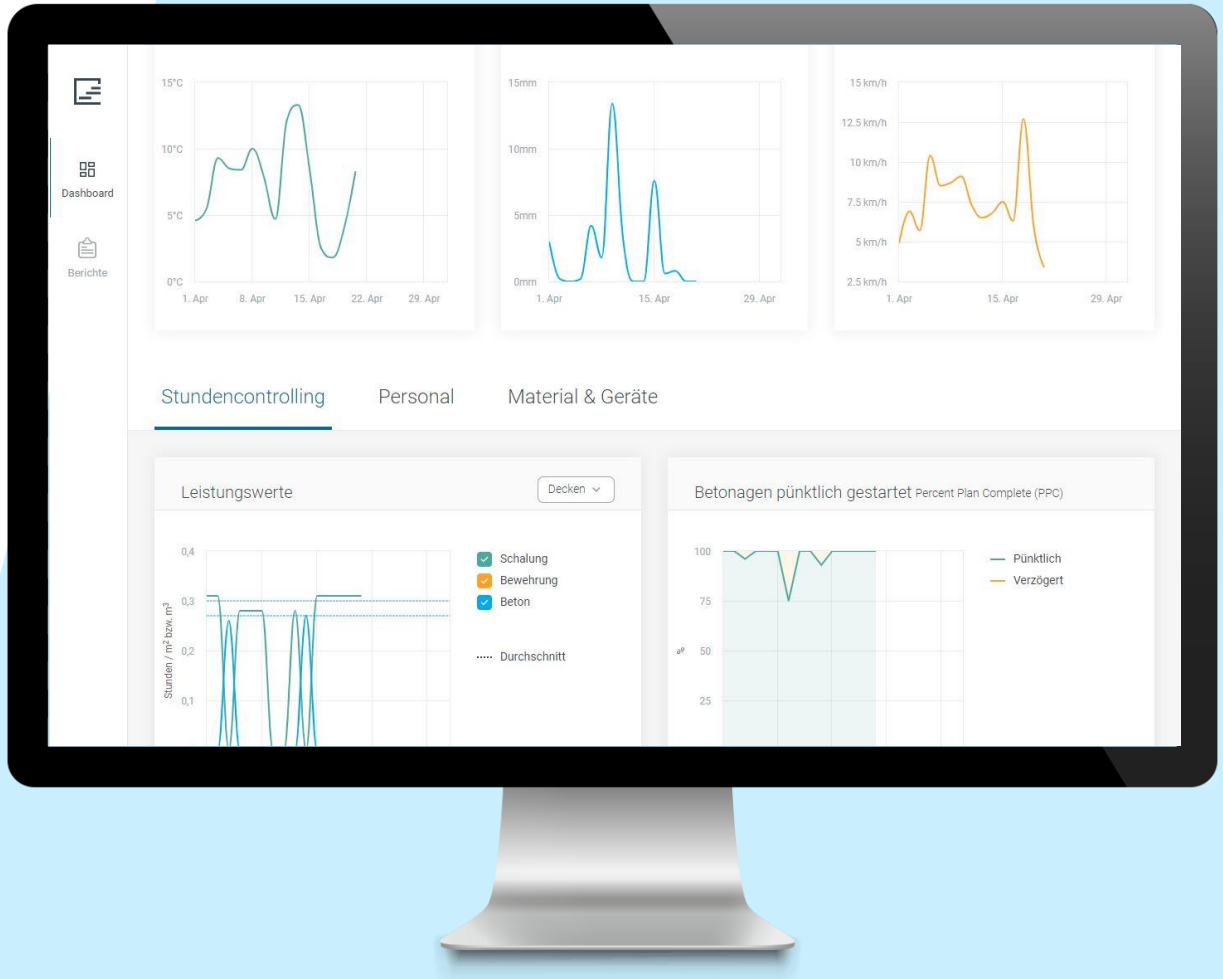
3

Progress & Performance of all projects at a glance

Optimized production workloads & processes

Higher precision in tender calculation and work preparation
with own and real-life measured field data

Tracking of milestones
Deviation alerts



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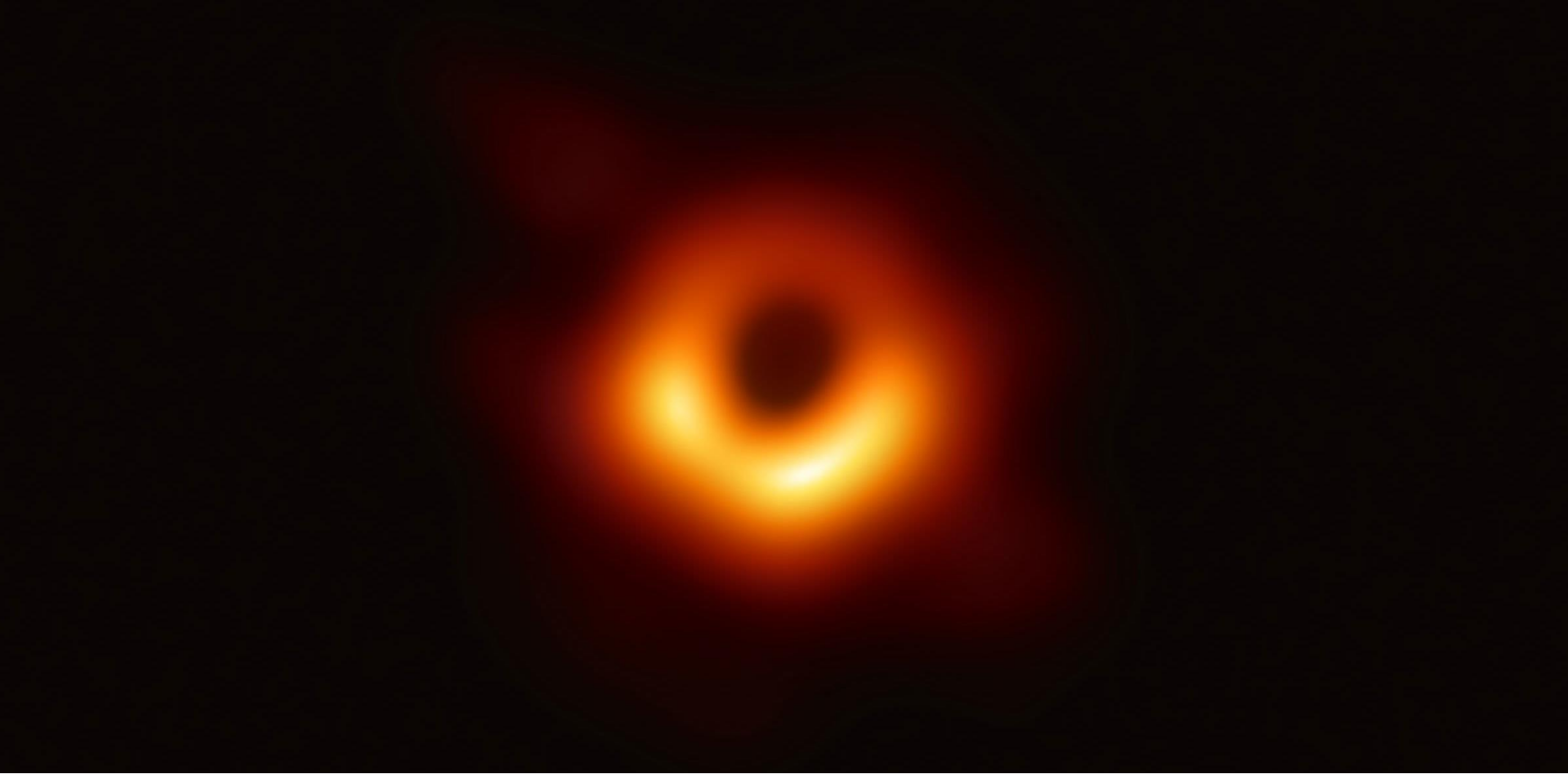


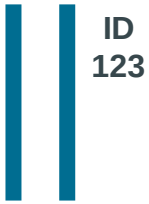

2

2

CONTAKT SENSOR

Position
horizontal

Movement
gyroscope



Position
vertical

Concrete
temperature

maturity
tracking

Outside temperature

Long Range Wide Area Network

~ 1.3 years

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End to End planning
with field data for higher productivity and beyond

Linking
the projects

Import
BIM360 project

Check
model version

Update
from BIM360

Export
BIM360 as built

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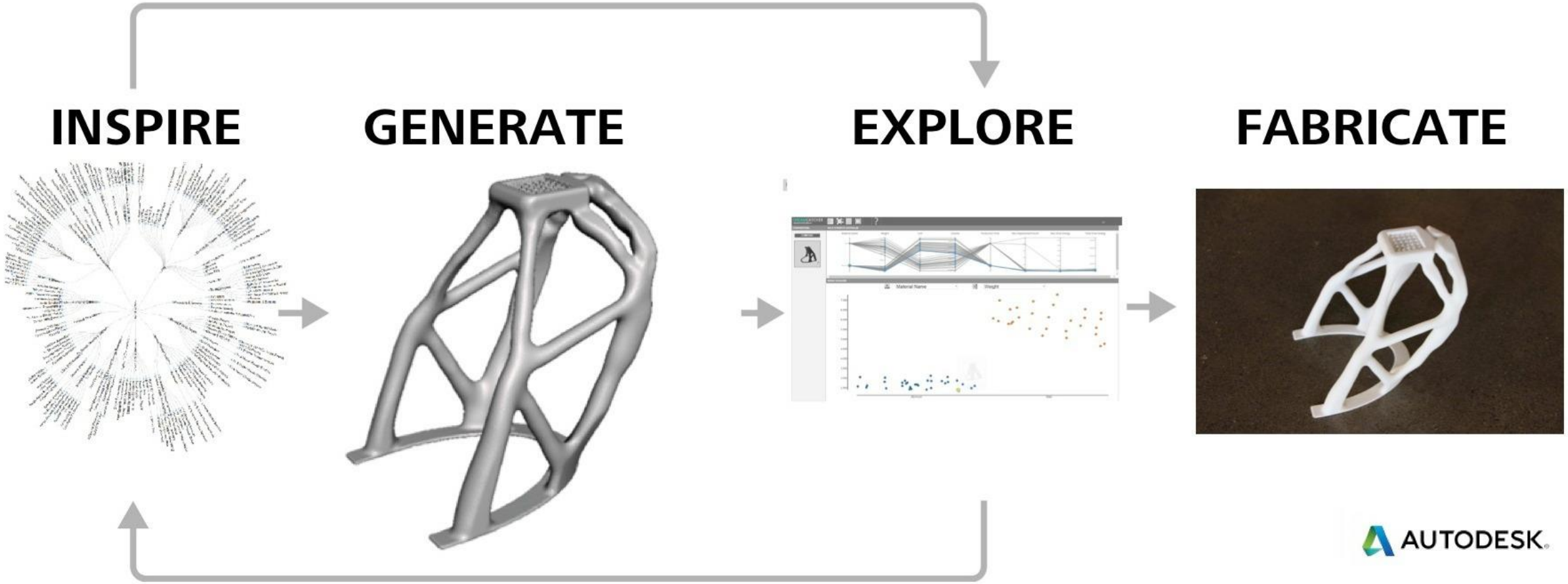
AUTODESK® BIM 360™

Autodesk & Contakt tomorrow

what about construction execution simulation?



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