Artem Boiko

Democratize access to data

Seamless data-driven decision making

"From miner to data miner"

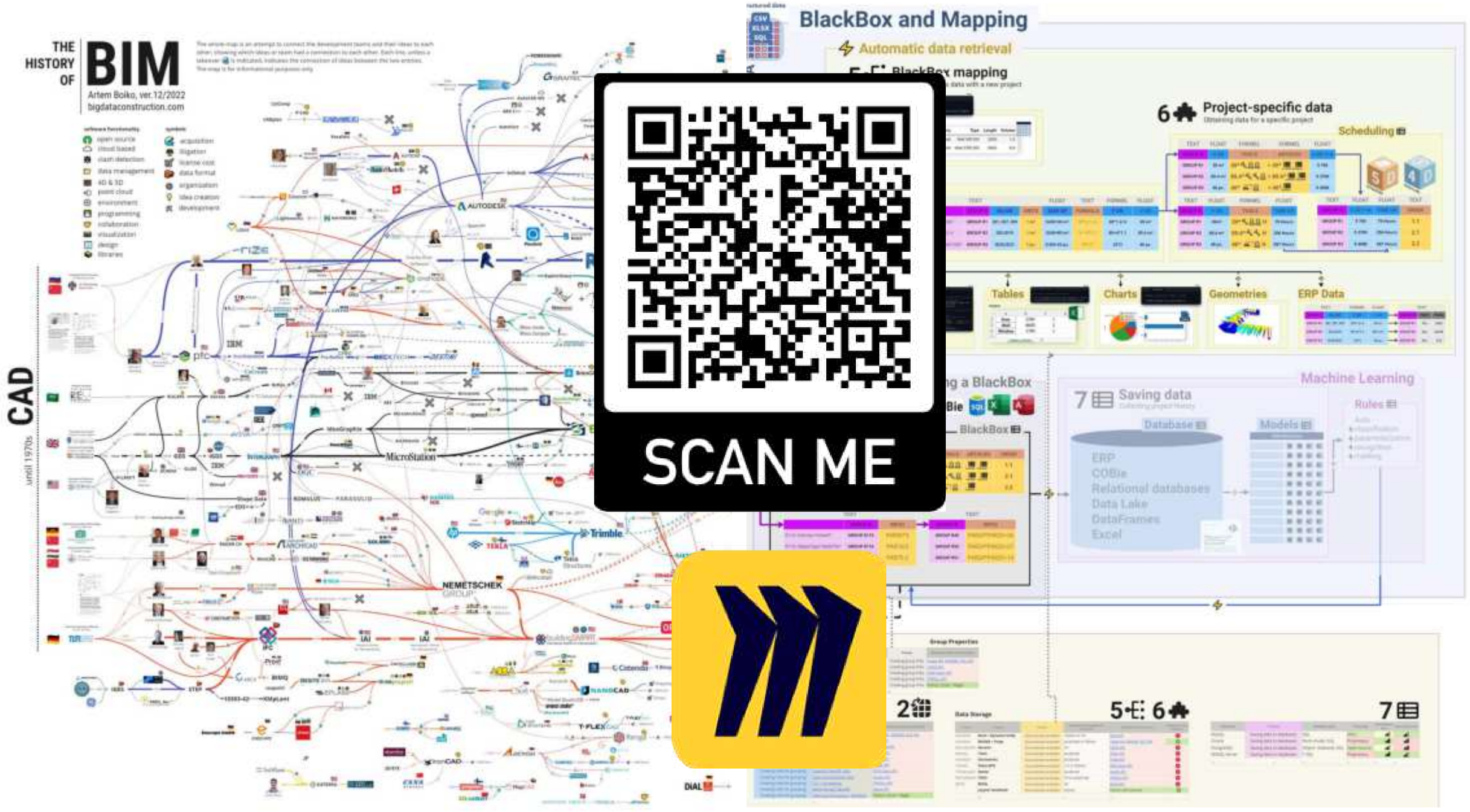
Artem Boiko

Baden-Württemberg, Germany

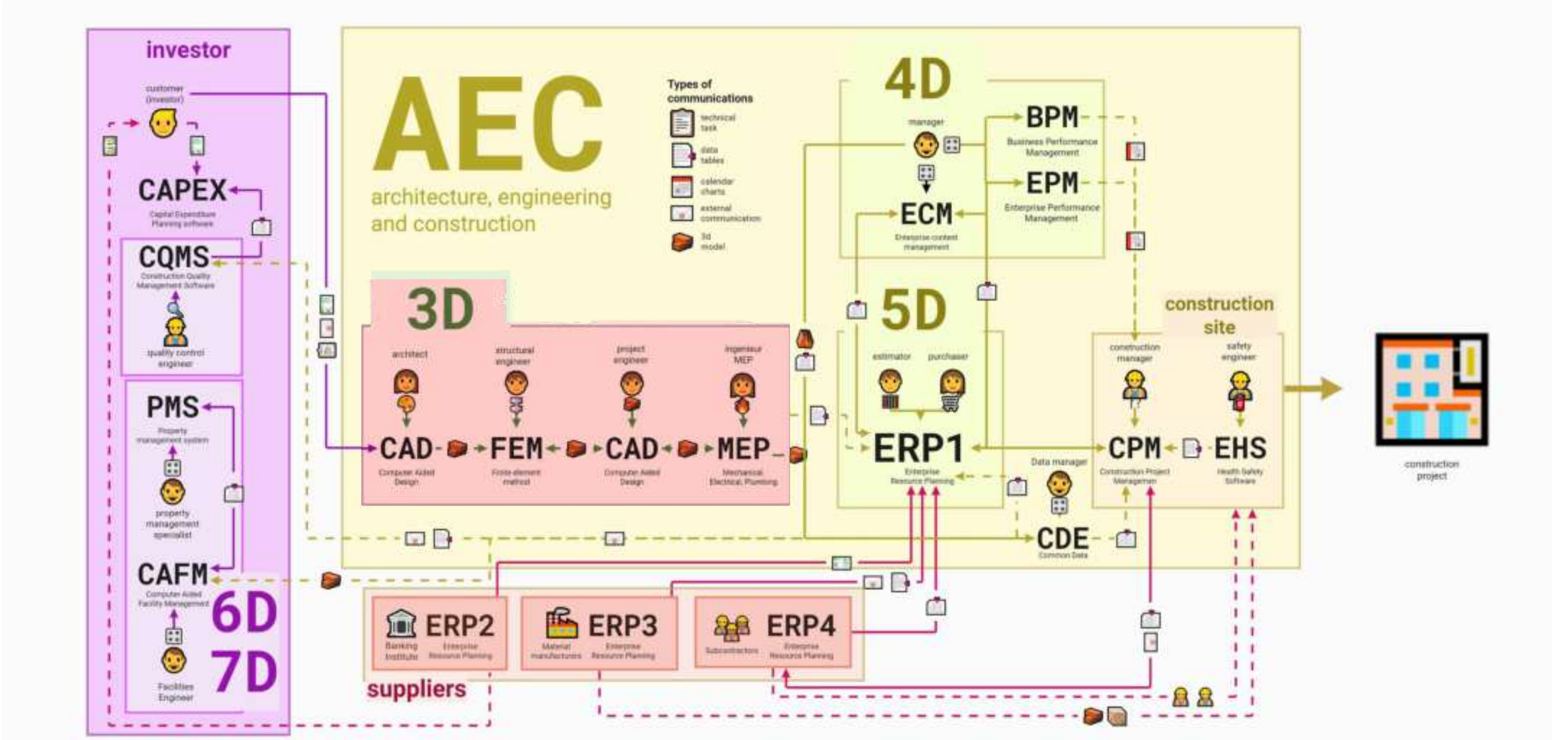
Co-Founder
OpenDataBIM
BigDataConstruction

OpenDataBIM

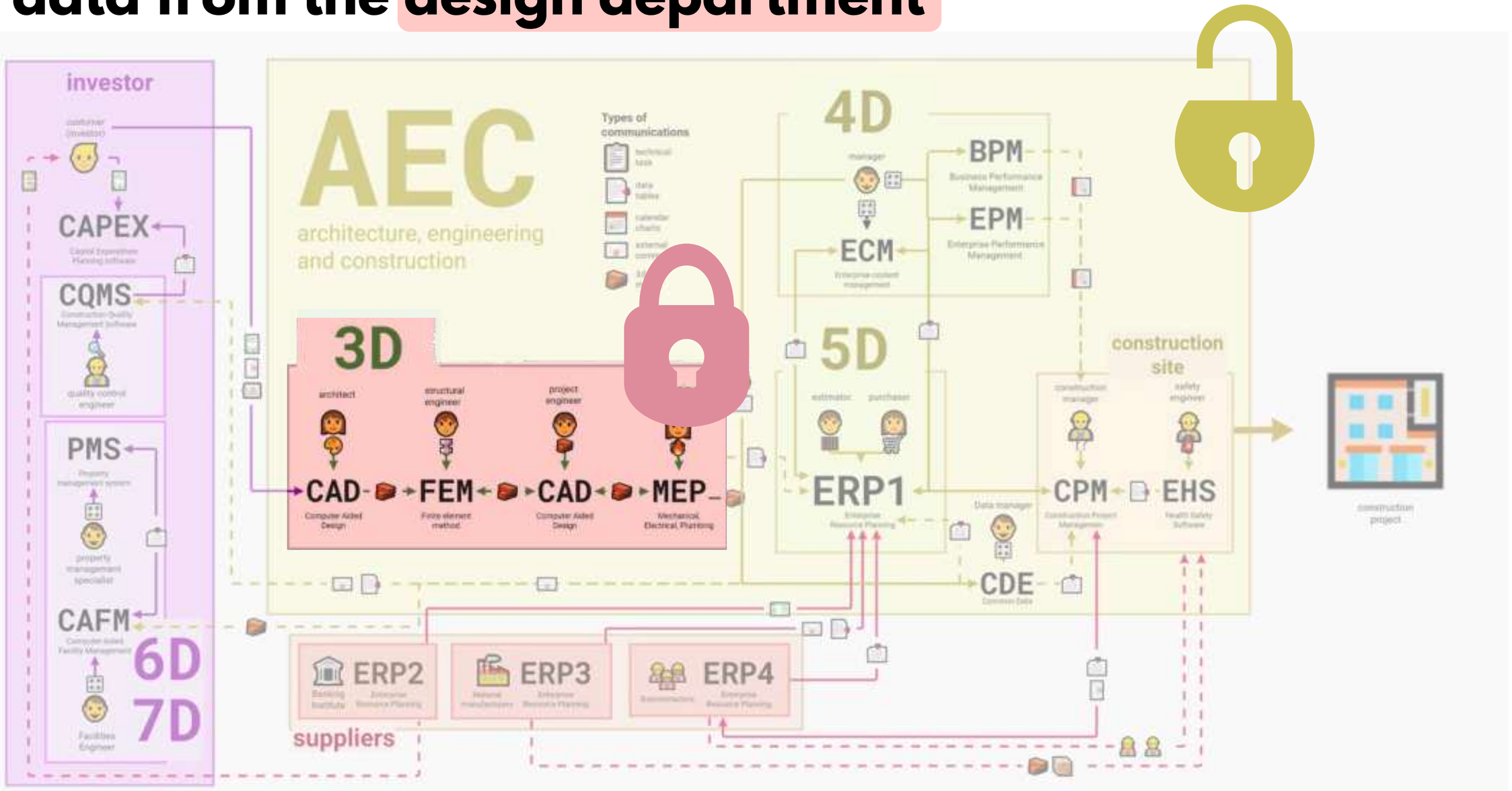
FORMAT FREE


THE HISTORY OF
BIM
Artem Boiko, ver.12/2022
bigdataconstruction.com
CAD
until 1970s
AUTODESK
MicroStation
Trimble
NEMETSCHEK
GROUP
BlackBox and Mapping
Automatic data retrieval
BlackBox mapping
6 Project-specific data
Scheduling
Tables
Charts
Geometries
ERP Data
Machine Learning
7 Saving data
Database
Models
Rules
ERP
COBie
Relational databases
Data Lake
DataFrames
Excel
SCAN ME

The project database is just one database in the construction business



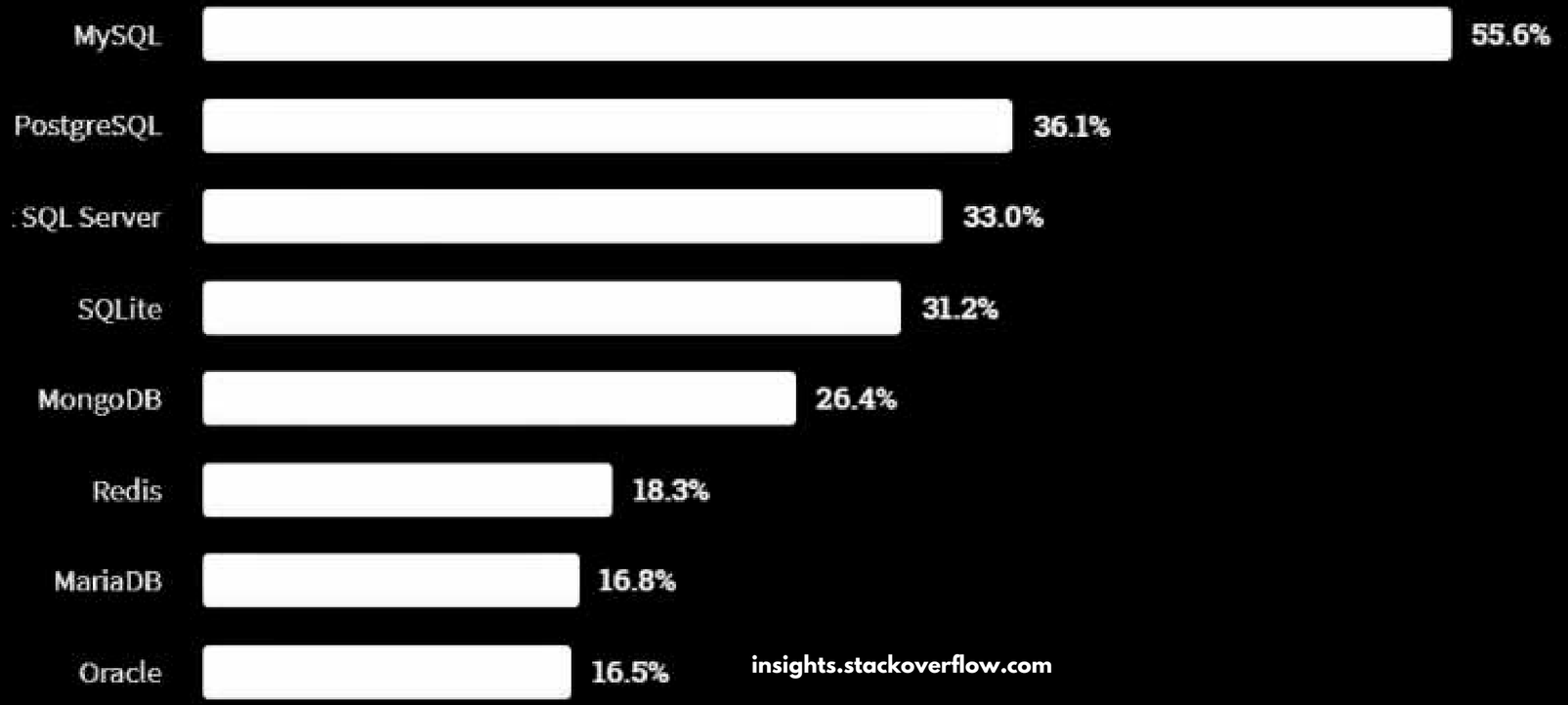
Data from open systems awaits magical data from the design department



DBMS +UI

Database management system

- Enterprise Systems
- Banking and Finance
- Healthcare
- E-Commerce
- Education
- Travel and Hospitality
- Telecommunication
- Government
- Social Media
- Real Estate



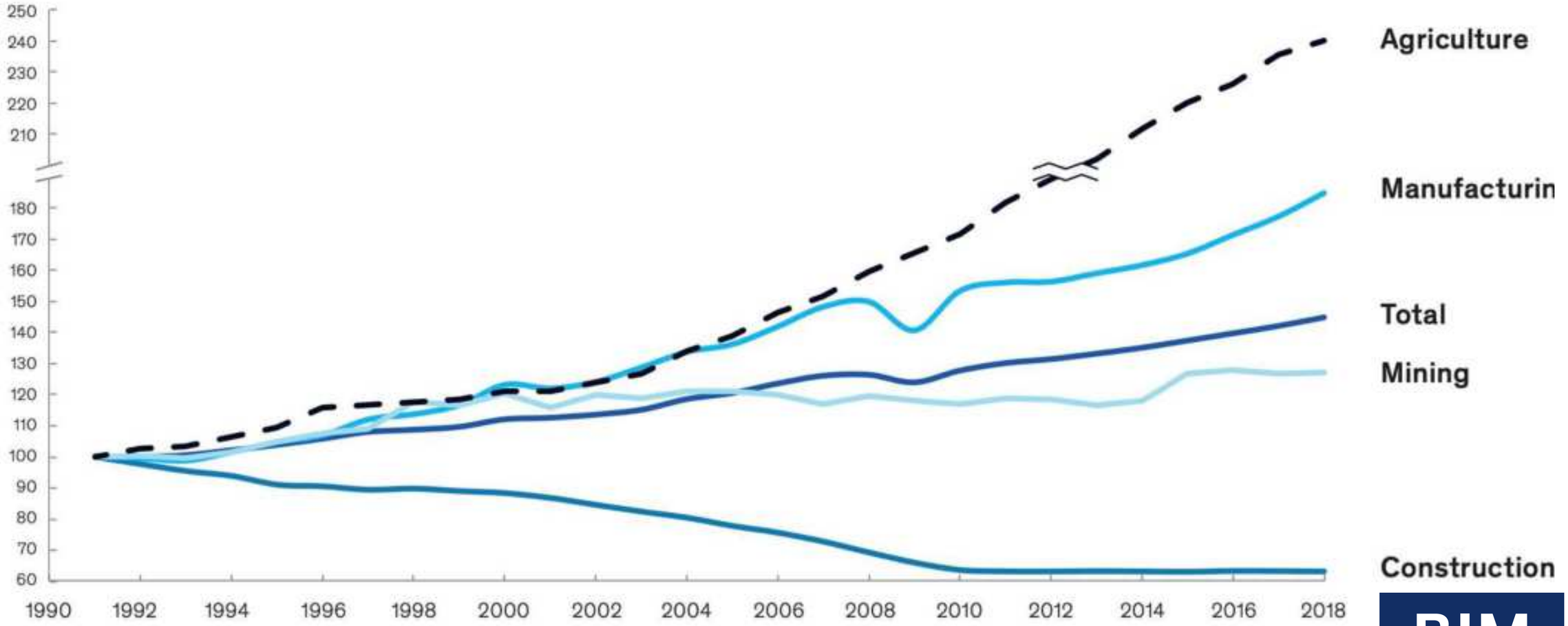
Construction

Designing

CAD Tools
BIM Tools

BIM has failed to improve productivity

Global productivity growth, gross real value (2010 $) added per person engaged, indexed (1991 = 100)



BIM

Closed Solutions Win the Market

~20-30%

OPEN BIM™

~70-80%

CLOSED BIM

AUTOCAD

Revit vs openBIM in 2022

Revit ArchiCAD Vectorworks Allplan

VS

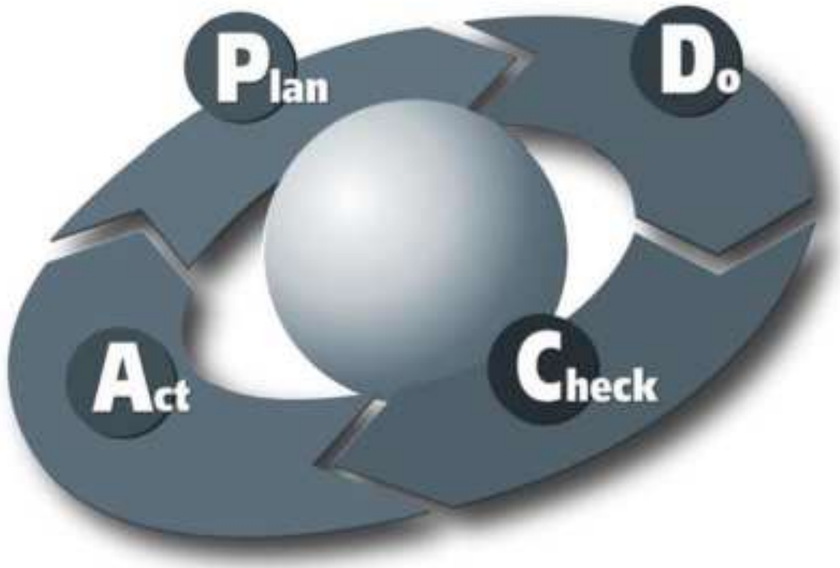
CLOSED BIM

OPEN BIM™

AUTODESK™

2003

CLOSED BIM



VERSUS

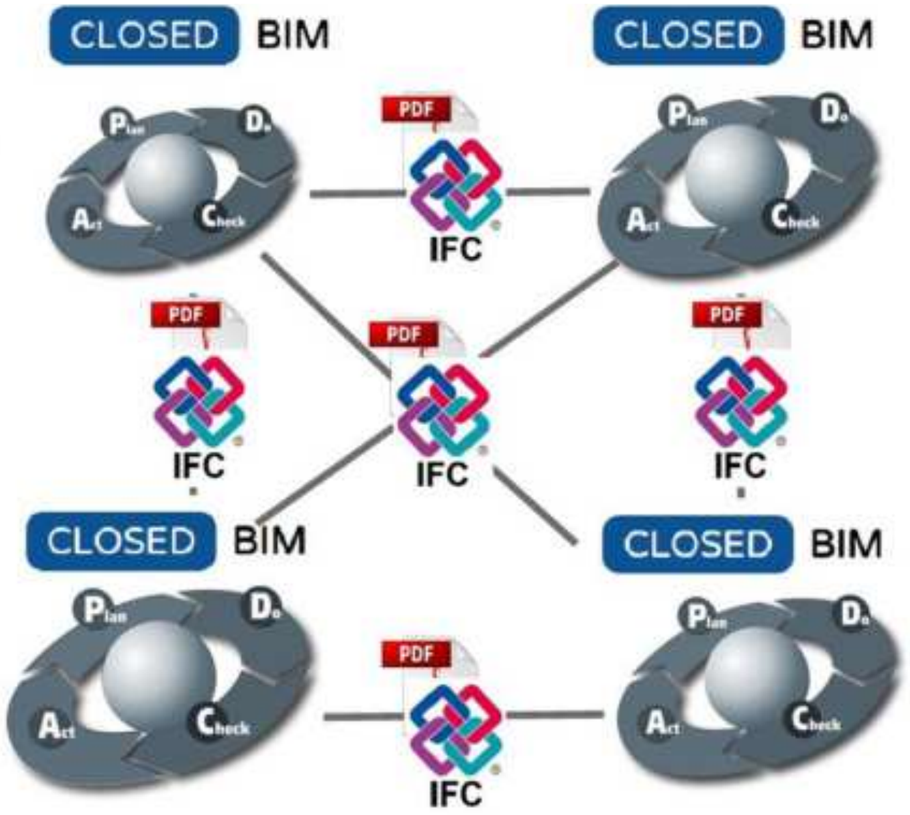
NEMTSCHEK™ GROUP

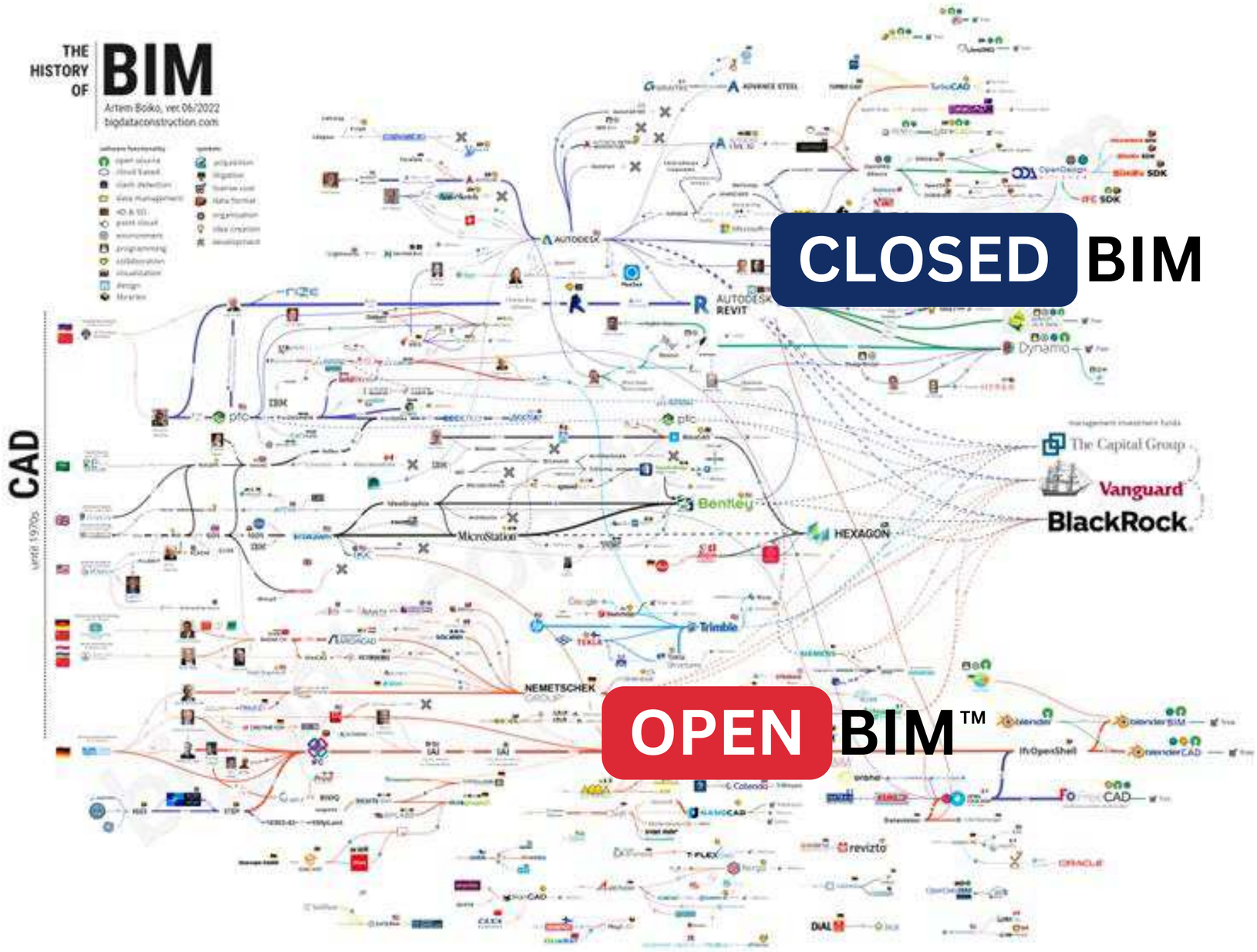
2011

buildingSMART

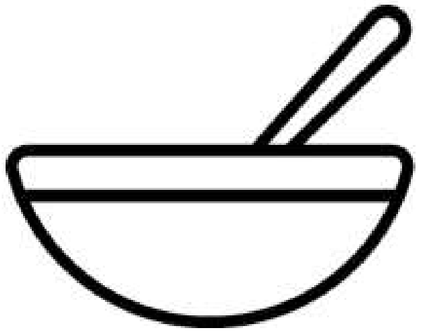
2020

OPEN BIM™





Ein Mix aus Technologien, Persönlichkeiten, Teams und Ideen



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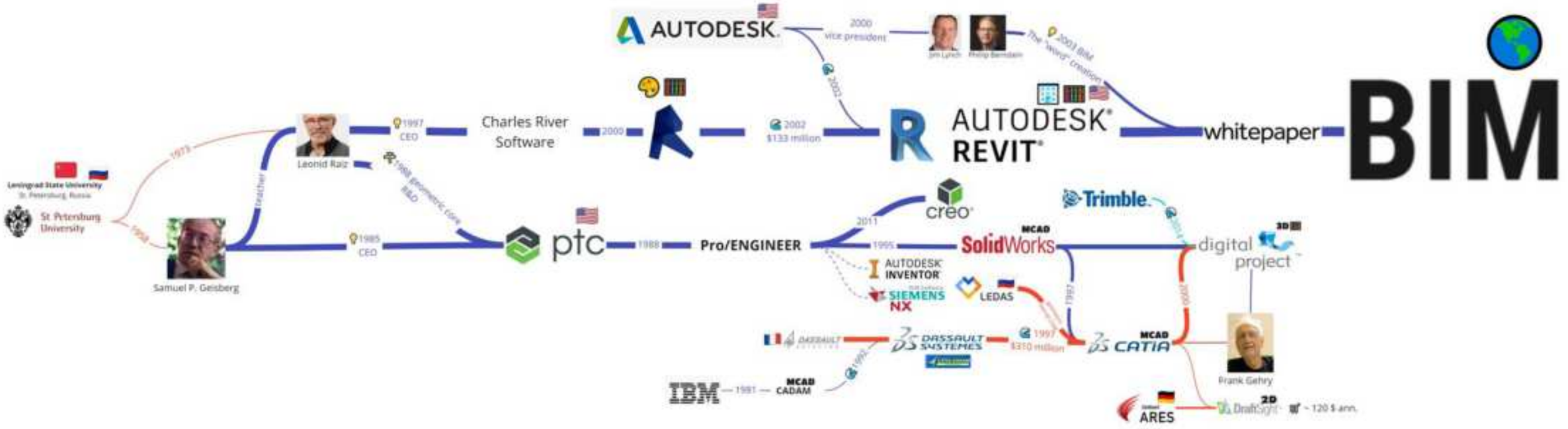
Revit taucht aus dem Nichts auf?



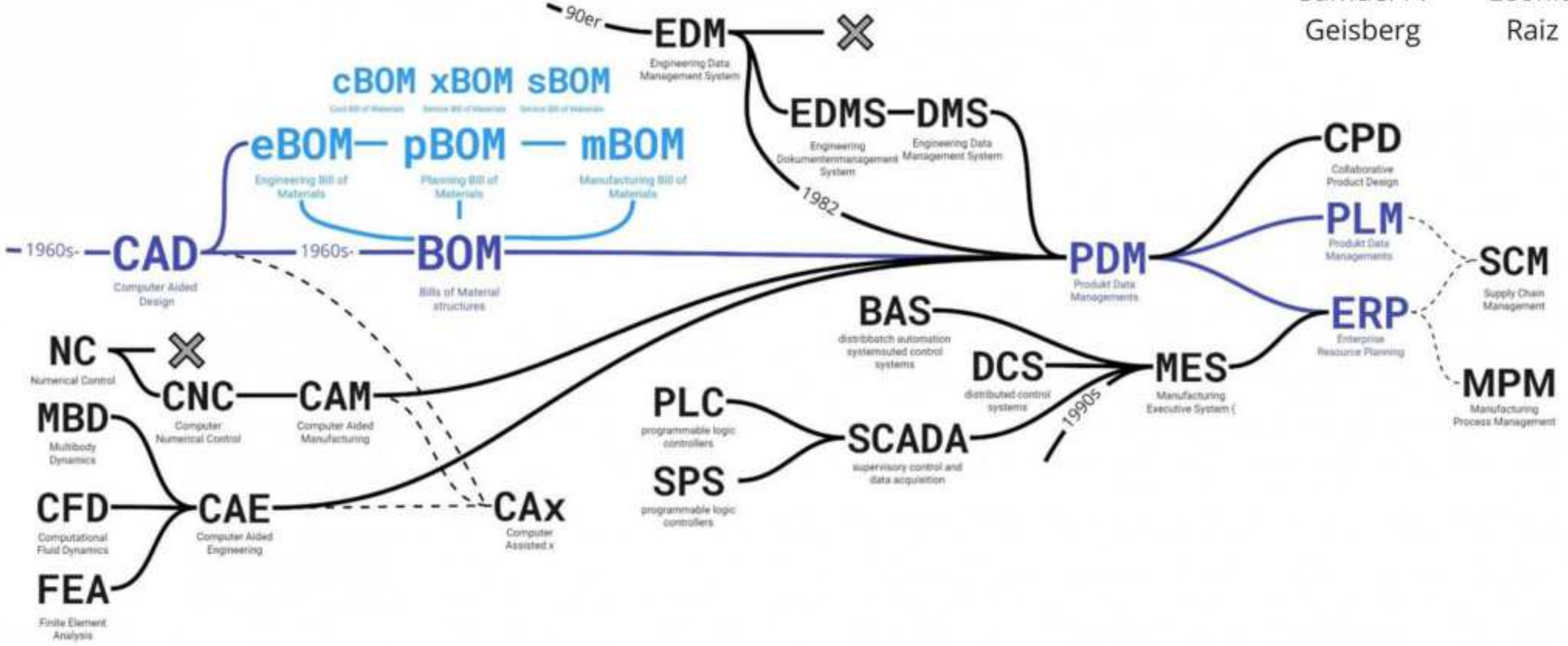
data management framework | engineering

Artem Boiko, ver.01/2021
bigdataconstruction.com

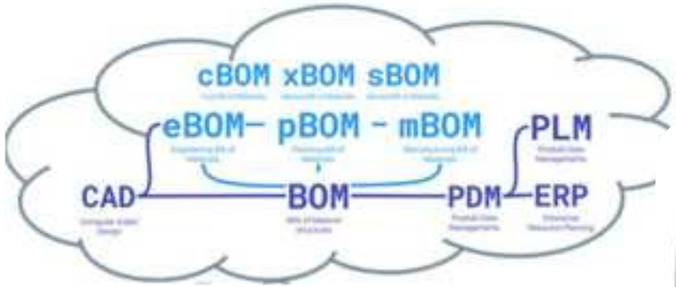
ptc

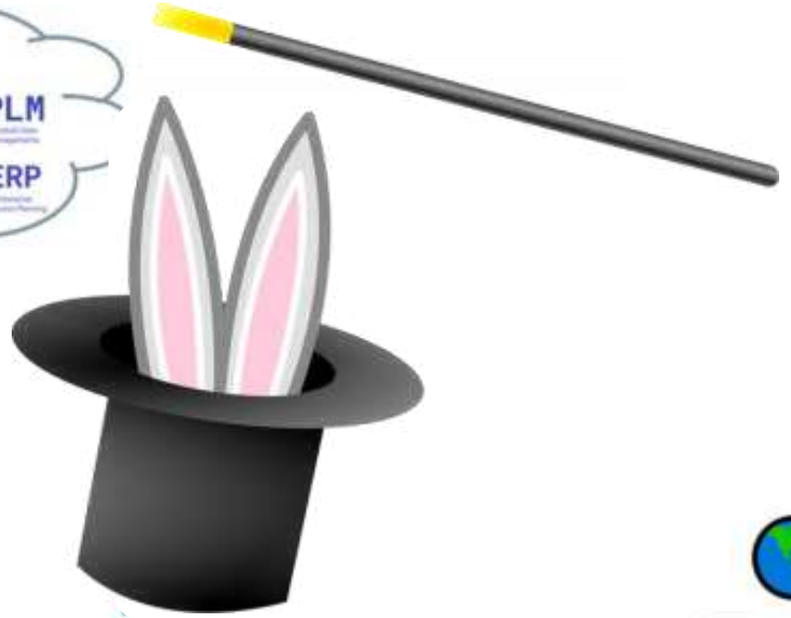
Samuel P. Geisberg

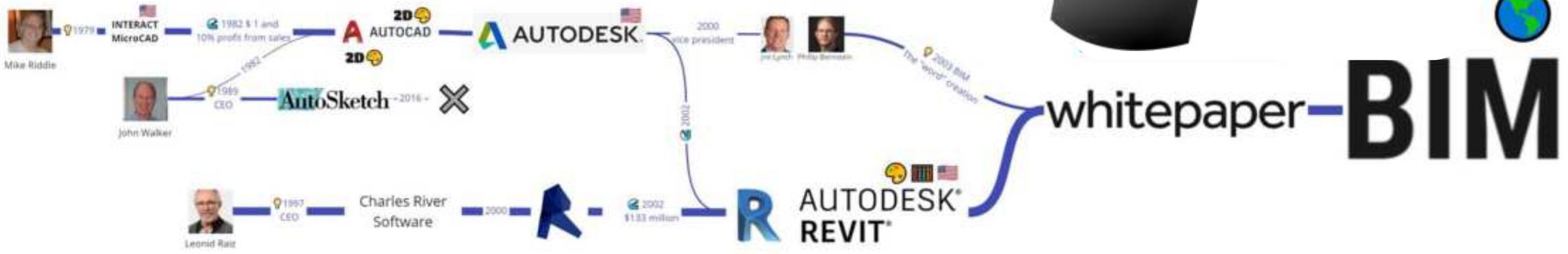
Leonid Raiz



Das Entstehen von BIM

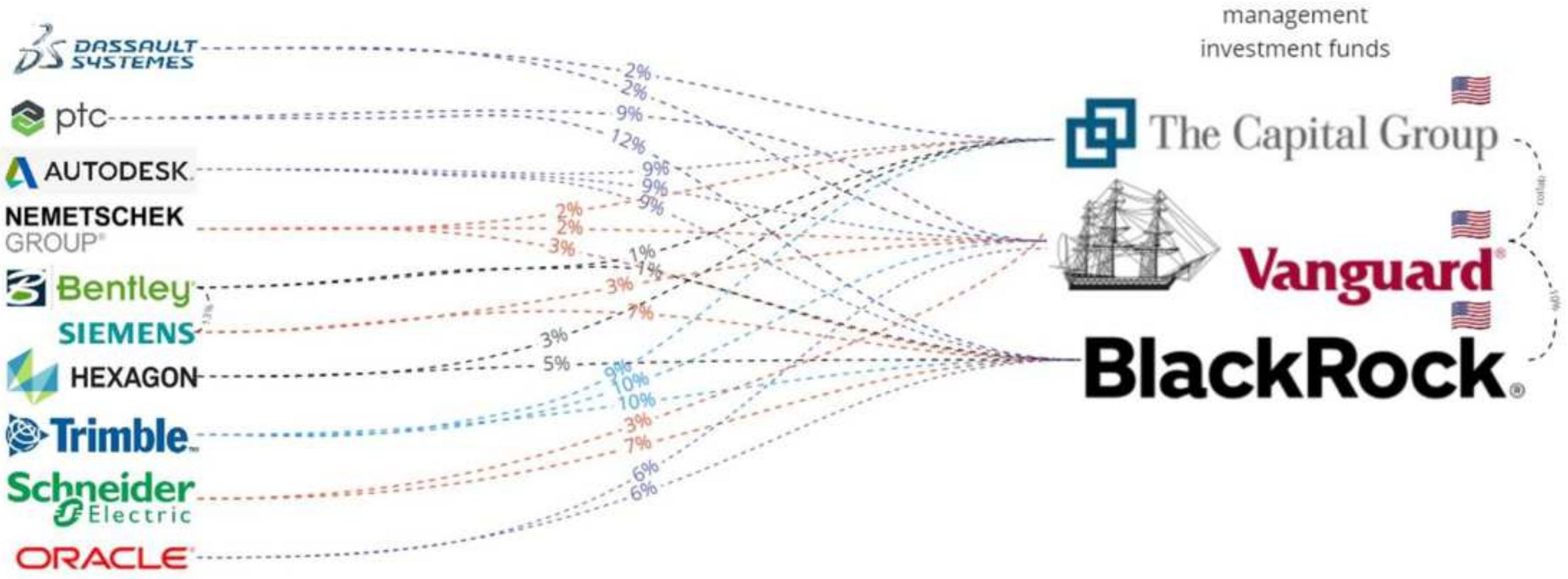






Shareholders of Major CAD Companies

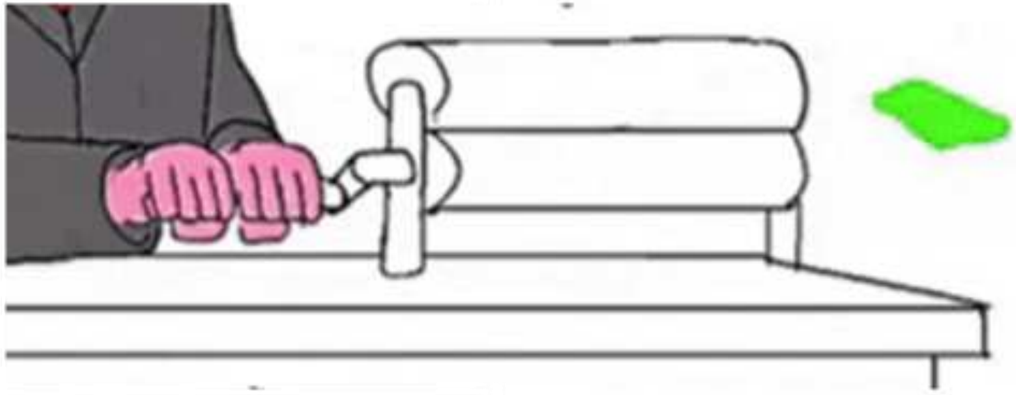
by Artem Boiko, 2021
bigdataconstruction.com

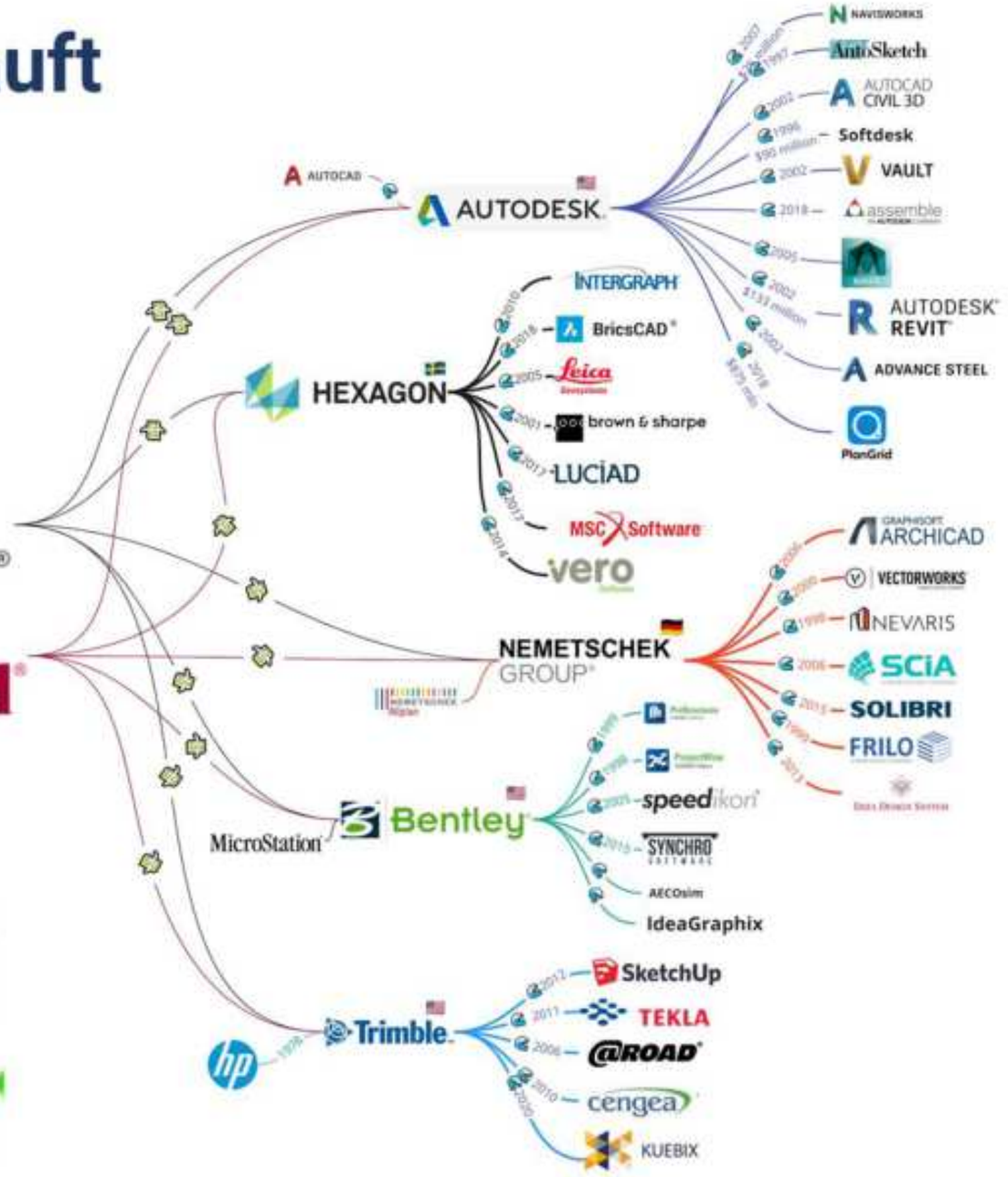


Bedeutende Startups aufgekauft in den letzten 20 Jahren

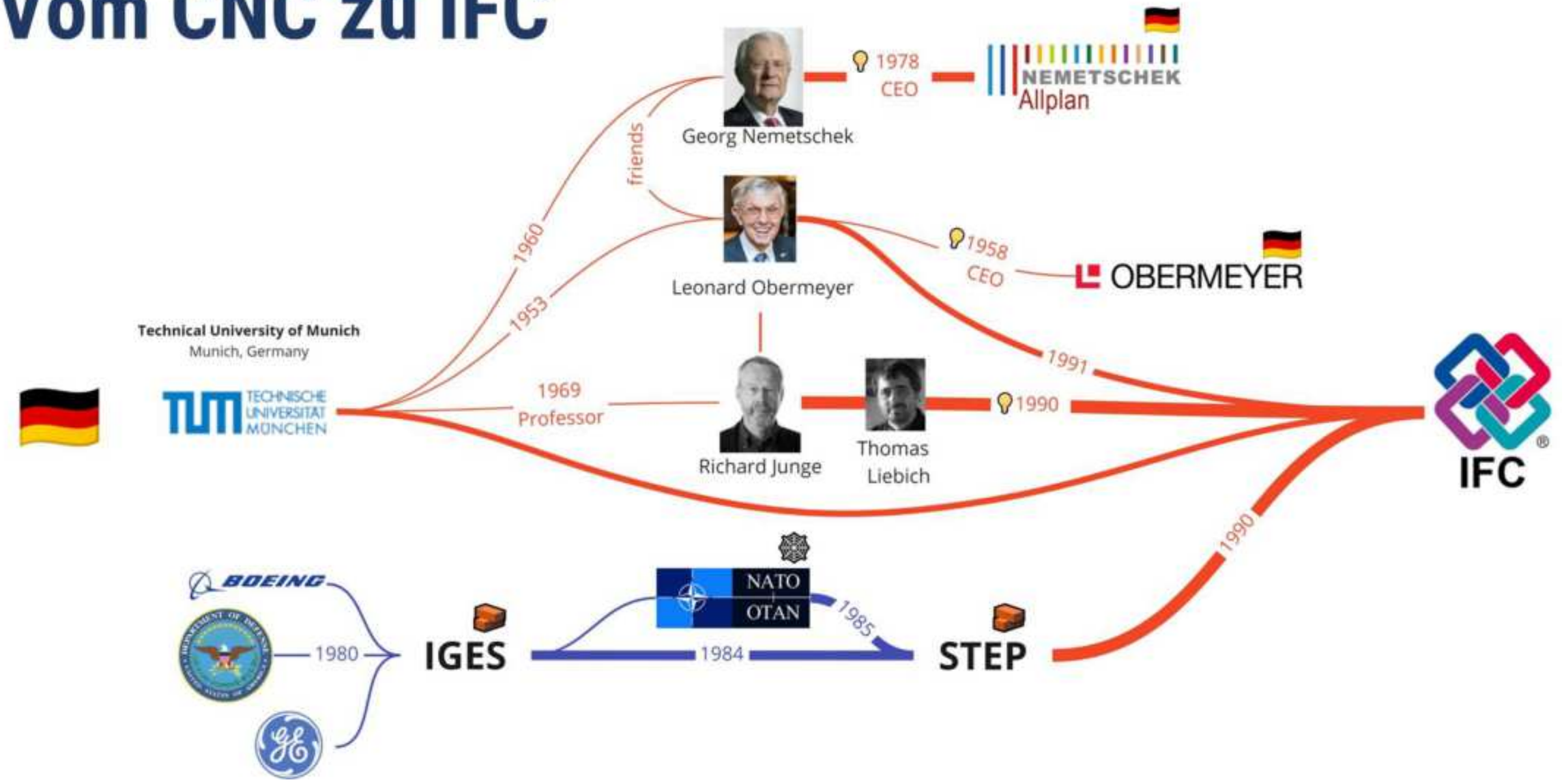
BlackRock

Vanguard





Vom CNC zu IFC

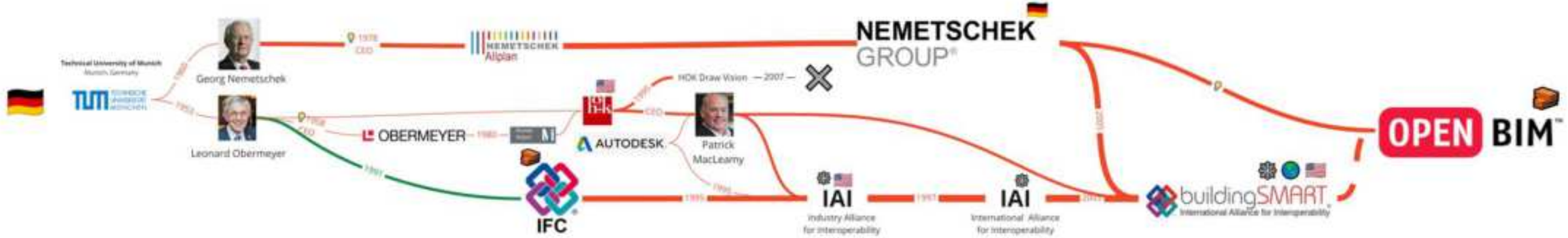


CEO

Patrick
MacLeamy

AUTODESK.

buildingSMART
International Alliance for Interoperability



Web-Archiv 2012
Offizielle Graphisoft and Trimble Website

GRAPHISOFT®
A NEMETSCHEK COMPANY

Trimble

GRAPHISOFT.

What are you looking for?

ArchiCAD | BIMcloud | BIMx | Users | Learning | Downloads | Support

OPEN BIM

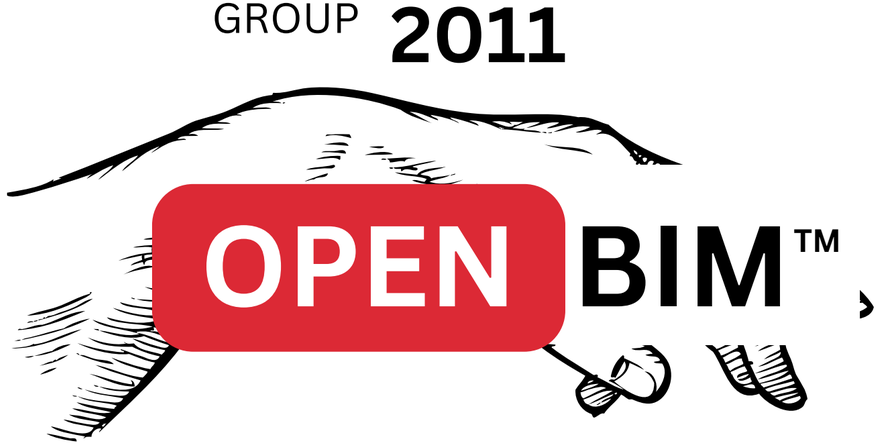
About BIM | OPEN BIM Program | Structural Workflows | MEP Workflows | Downloads

OPEN BIM™

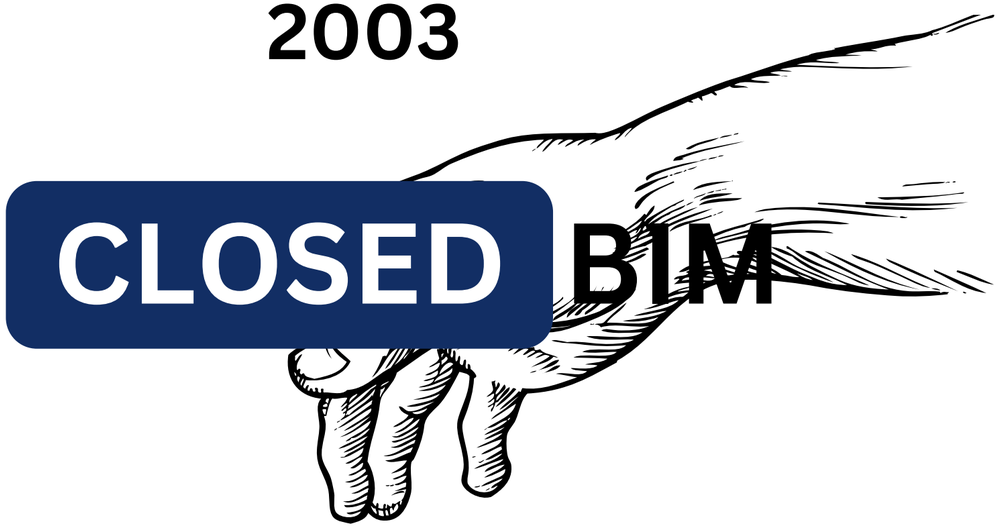
OPEN BIM Program

The **OPEN BIM Program** is a marketing campaign initiated by GRAPHISOFT®, Tekla® and others to **encourage** and **facilitate** the globally coordinated promotion of the **OPEN BIM concept** throughout the AEC industry, with **aligned communication** and common branding available to program participants.

NEMTSCHEK ™
GROUP 2011



AUTODESK ™
2003



Questionable data quality

NEMTSCHEK ™ GROUP + TRIMBLE ™ + ERP =

TRIMBLE ™ + NEMTSCHEK™ GROUP + ERP =

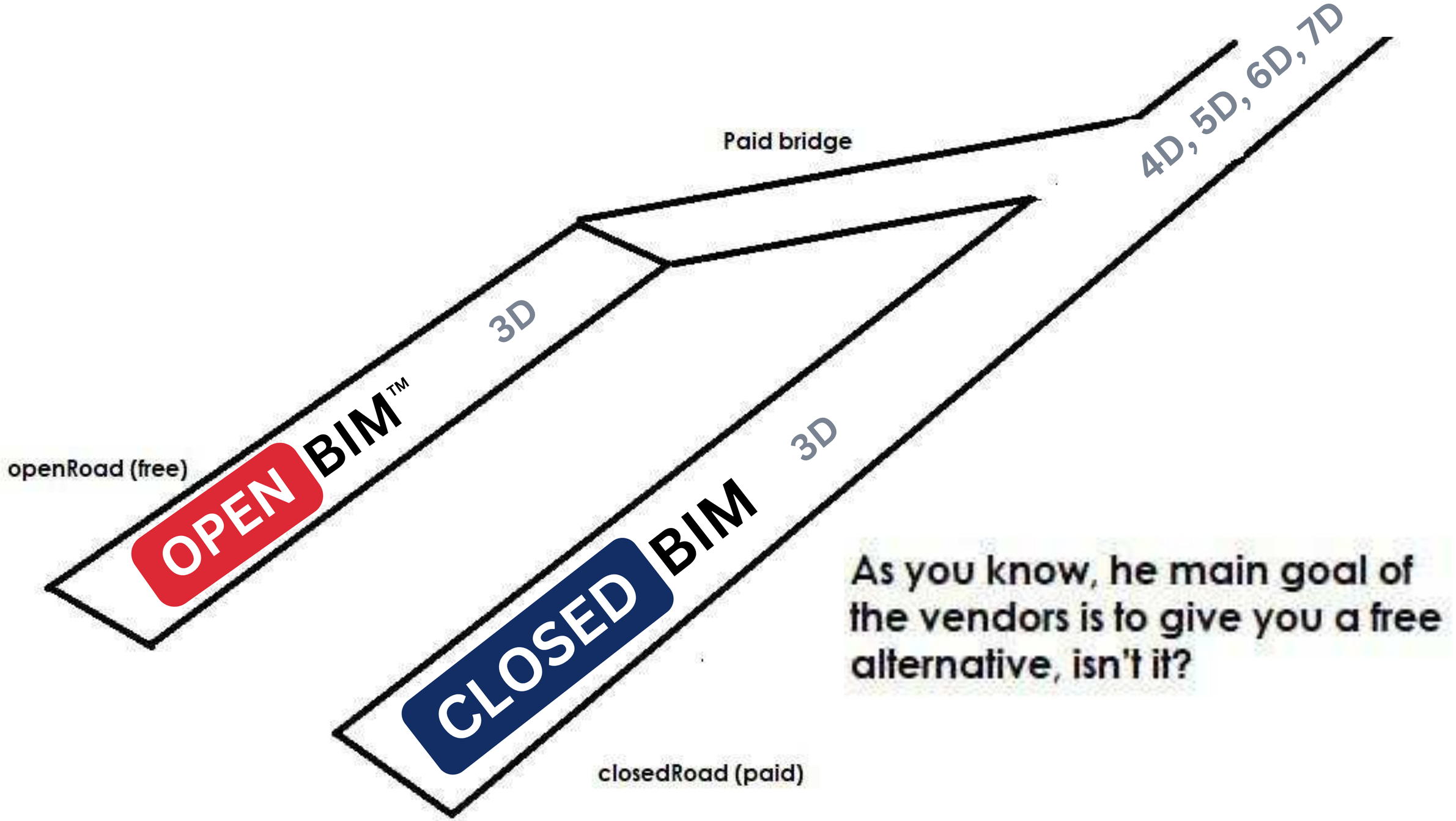
NATIV-IFC + NEMTSCHEK™ GROUP + ERP =

Sufficient data quality

NEMTSCHEK™ GROUP + NEMTSCHEK™ GROUP + ERP =

TRIMBLE™ + TRIMBLE™ + ERP =

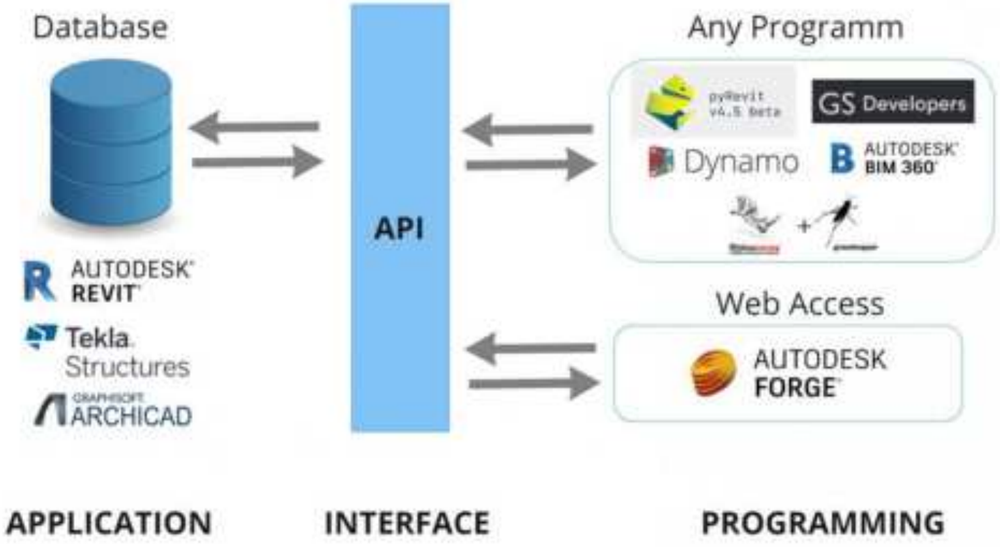
NATIV-IFC + NATIV-IFC + ERP =

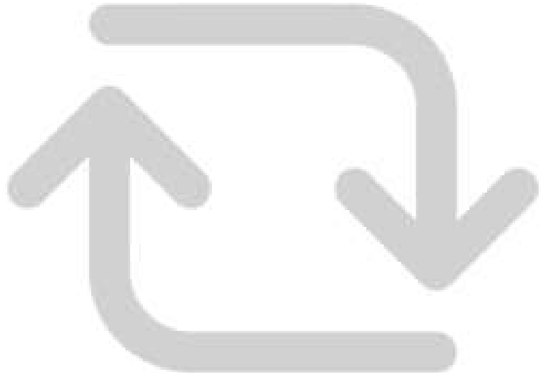


As you know, he main goal of the vendors is to give you a free alternative, isn't it?

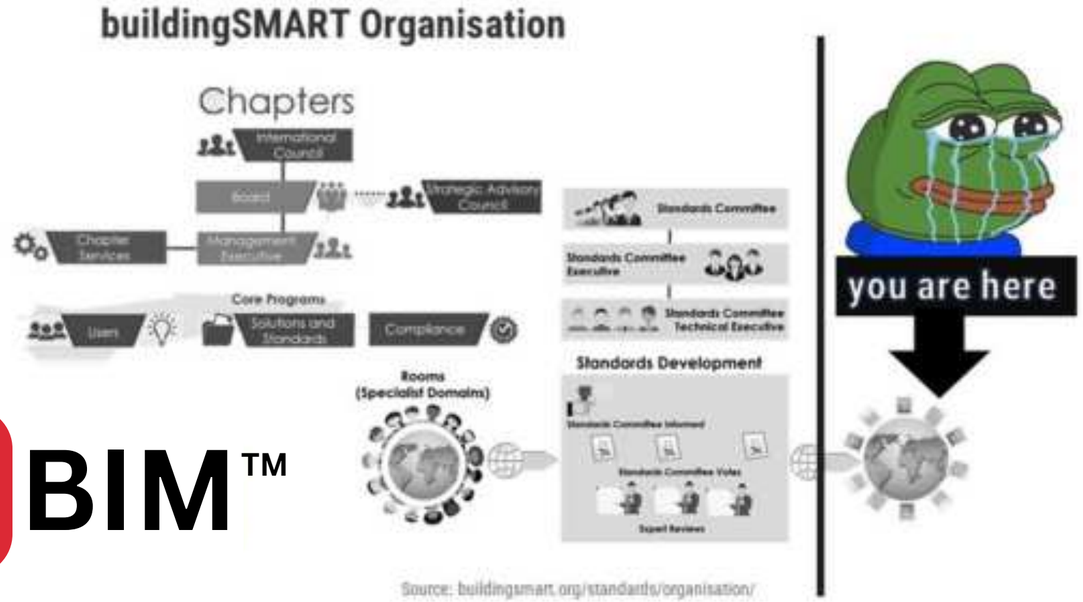
As you know, he main goal of the vendors is to give you a free alternative, isn't it?

CLOSED BIM





OPEN BIM™



Establishment of closed systems for data processing and analysis

	Vendor	AUTODESK.	NEMETSCHEK GROUP	Trimble.
3D	CAD	AUTODESK REVIT	GRAPHISOFT Archicad	Tekla Structures
4D 5D 6D 7D	ERP EPM ECM	AUTODESK BIM 360	NEVARIS	Tekla EPM

Artem Boiko
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Source: autodesk.com, nevaris.com, tekla.com

FORGE

Autodesk Platform Services (APS) and AWS Amazon

~$1 for Transaction

Don't plan late plannerly

CUBE

Xinaps

big

PLANGRID BUILD

isBIM

POWERBIM

- **APIs**: Charged per call
- **Storage**: Charged per gigabyte
- **Compute**: Charged per hour

Where is CAD-BIM created?

(R)DBMS + UI

tables

CONSTRUCTION DATA WORLD

Data

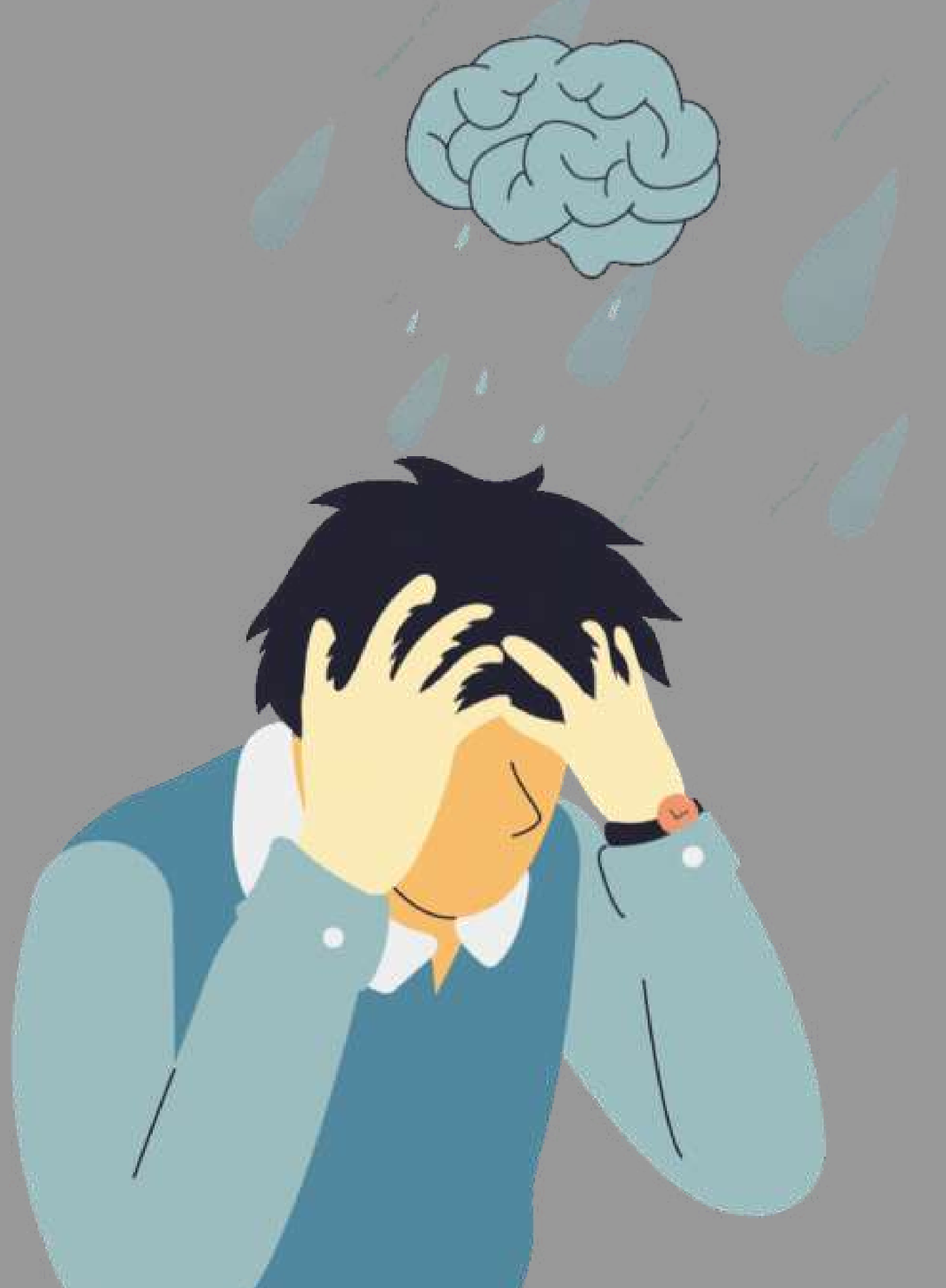
Revit
Archicad
Tekla

structured data

Export

IFC
XML
JSON

semi-structured data

RVT
PLN
TSK

closed data