BUILDING A LIVABLE CITY OF TOMORROW
DIGITAL CONSTRUCTION:
NETWORKS.
PROJECTS.
VISION.

SAME Meeting
January 21st, 2015
Rainer Bareiß, Lynn Hiel, Nicolas Früh
1. **BACKGROUND**

**Mission:** Apollo 5

**NSSDC ID:** 1968-007

**Mondlandefähre:** LM-1

**Trägerrakete:** Saturn I-B, Seriennummer AS-204

**Besatzung:** keine

**Start:** 22. Januar 1968, 22:48:09 UTC

**Startplatz:** Cape Canaveral Air Force Station, LC-37-B

**Location:** Charlotte, NC, 01/22/1968
BUILDING INFORMATION MANAGEMENT (BIM) @AEROSPACE INDUSTRY

SÄNGER II, MBB, 1987

Stage separation

- Volume models
- Separation code
- Upper stage stage separation mechanism design
THE FIRST COMPUTERS

CHARLES BABBAGE: ANALYTICAL ENGINE, 1833
ALAN TURING: „PRINCIPLES“ 1936
KONRAD ZUSE: Z3, 1941
ENIAC, 1946. ENIAC'S DESIGN AND CONSTRUCTION WAS FINANCED BY THE UNITED STATES ARMY, ORDNANCE CORPS, RESEARCH AND DEVELOPMENT COMMAND
1941, Konrad Zuse, first computer Z3
1943, Thomas Watson Chairman, IBM: „I think there is a world market for maybe five computers.“

1949 Volker Hahn @Züblin

1961 Founding „Recheninstitut für Bauwesen (RIB)“ after contact to engineers of IBM, close contact to Konrad Zuse.

First computer @Züblin in a 4-room flat

1977, Ken Olsen Founder, Digital Equipment Corporation: „There is no reason why anyone would want a computer in their home.“

1993 Bill Gates: “The internet is just a hype“
Start saving energy now!
and contribute to a healthier climate for future generations.
INDOOR NAVIGATION

https://contagt.com
QUALITY ASSURANCE: ROOF LEAK DETECTION

Pilotprojekt „Quartier F, Sindelfingen“: Direktion Stuttgart / Zentrale Technik
CITES & MOBILITY BECOME INTERCONNECTED
WE KNOW WHAT HAPPENED IN THIS GARAGE 1976, BUT WHAT HAPPENS IN THIS HACKERSPACE 2014?
TIMBER, EMOTION, MOBILITY
THE CITY OF THE FUTURE CONNECTS EXPERIENCES

1967

2006

2014

LONDON – FUTURE OF MOBILITY

Quelle: www.theguardian.com/artanddesign/architecture-design-blog/2014/jan/02/norman-foster-skycycle-elevated-bike-routes-london

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BIM & IOT PILOT PROJECT
CHARGE & SECURE PEDELECS IN VARIOUS PLACES
INCREASE AIR QUALITY & MAKE YOUR CITY MORE SILENT BY REDUCING CAR TRAFFIC / CO2
MAKE A HILLY TERRAIN VIRTUALLY FLAT – FOR ALL

30% slope

athletics, sports amateurs

0% slope

children, elderly people & more
PLATFORM FOR NEW INFRASTRUCTURE - AIR-QUALITY MEASUREMENTS, WIFI HOTSPOTS...
CHARGE ELECTRIC CARS
NICOLAS FRÜH „BIM - design to production“
Lynn Hiel „BIM – turning the page“
LOCAL PEOPLE PRODUCE WITH LOCAL MATERIALS
THE CREW
MOBILE CONSTRUCTION
TEMPORARY MULTI-PURPOSE BUILDINGS WHEREEVER YOU NEED THEM
SIMPLE TRANSPORT – MOVE WHEN NECESSARY
EXAMPLE: REDEFINING PARKING DECKS
MOBILE SPORTS CAMPUS
MOBILE PARKS
MOBILE RECREATION AREAS
CUTTING-EDGE PROJECTS
APPLYING BIM

Architecture (JAHN Architects)

Structural Design (Werner Sobek Stuttgart / Züblin Zentrale Technik)

MEP (TechDesign)

Testtower Rottweil
"The building should not only be overwhelmingly beautiful, but also address the question: What does material mean in a dematerialized media economy, what does an office mean in a mobile working environment, in which offices are no longer really required? ", CEO
7 NETWORKS
VDC leads meet Autodesk team

new features & workshops

sharing experience doesn’t hurt

what does the construction industry really need from Autodesk

NORTH AMERICAN CONSTRUCTION CUSTOMERS COUNCIL (NAC3)
PLATFORM "CITY OF THE FUTURE"
GBN helps organizations adapt and grow in an increasingly uncertain and volatile world. Using our leading-edge tools and expertise—scenario planning, experiential learning, networks of experts and visionaries—we enable our clients to address their most critical challenges and gain the insight, confidence, and capabilities they need to shape the future.
TAKE-AWAYS & VISION
1. Great **teams** make all the difference
2. make **meaning** & **Inspire** people
3. **Cooperate** / Network / Partner
4. Engage in **digital** construction & BIM & IoT
5. (Mobile) **timber** construction offers new flexibility & quality
6. **Prototype** and fail fast
7. **Data** is the new oil
„SIMPLICITY IS COMPLEXITY RESOLVED“
Technology Roadmaps Towards Sustainable Construction

Spotlight 2: Semiconductors/Building Automation 2016

International Technology Roadmap on Semiconductors

- Decreasing hardware costs: 100% → 2%
- Increasing memory size: 1x → 32x
- Increasing processor speeds: 1x → 6x

- Plug & Play Principles during installation
- Extended real-time condition monitoring
- Real-time operation cost optimization
- Intuitive operation by non-professionals