The Future of Digital Technologies in Construction

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Industries Served

- Agriculture
- Transportation & Logistics
- Geospatial
- Construction & Operations
- Natural Resources, Utilities & Gov’t

- Each project is unique
- Work is field intensive
- Technology is transformative

- Civil and Site Construction and Engineering
- Building Design, Construction and Operation
Trends

Tech in Construction

Digital Computing

Financial Cycles

Digitization of Construction
Digital Computing’s Future

- The Computing Environment

1981

1994

2007

Source: Chris Dixon, General Partner, Andreessen Horowitz
Digital Computing’s Future

The Accessibility of Data

Worldwide Internet Users

Source: (1) Chris Dixon, Andreessen Horowitz, (2) Statista.

World Population 7.4B

Gestation | Growth

2007
Digital Computing’s Future

The Form Factor of Computing

- ENIAC
- Microcomputer
- Personal Computer
- Laptop
- Smartphone
- Embedded Processors

Source: Chris Dixon, Andreessen Horowitz. ENIAC size by this author.

Raspberry Pi Zero
1 GHz Linux Computer for $5.00
(November 2015)
Digital Computing’s Future

- The Golden Age of AI

ImageNet Challenge Error Rates

Source: www.image-net.org
Digital Computing’s Future

- The Golden Age of AI

Courtesy: Teradeep Object Classifier
Digital Computing’s Future

- The Golden Age of AI
Digital Computing’s Future

1. The Accessibility of Data
2. The Form Factor of Computing
3. The Golden Age of AI
Trends

Tech in Construction

Digital Computing

Digitization of Construction
Digital Technologies That Will Change Construction

*Imagining construction’s digital future.*

Digital Technologies That Will Change Construction

1. High-definition surveying and geolocation
2. Next gen 5D BIM
3. Digital Collaboration and mobility
4. IoT and advanced analytics
5. Future-proof design and construction

Designing with materials and methods of the future
Rapid digital mapping and estimating
Design platform for the future
Moving to paperless projects from the office to the workforce

Digital Technologies That Will Change Construction

1. High-definition surveying and geolocation
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4. IoT and advanced analytics
5. Future-proof design and construction

Developing next generation of digital-native leaders

Digital Technologies That Will Change Construction

- Cloud Computing
- Mobile Solutions
- LEO & 5G/6G
- 3D Modeling, BIM & 5D
- VR/AR
- Drones
- Digital Positioning & Robotics
- Internet of Things - IoT
- Wearable Tech
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(Accessibility)

(AI)

(Form Factor)
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The Constructible Model
The Internet of Things in Construction
Digital Positioning, Imaging & Analysis

Digitization of Construction

Linking Office-to-Site, Virtual-to-Physical
Putting it all together at Trimble

Planning & Management Applications

Realtime Data To & From the Field

REPORTING

ANALYTICS

PERSONNEL & TOOLS

ANY SENSOR

EQUIPMENT

MATERIAL

INSTRUMENTS & TABLETS

SMARTPHONES

ENGINEER

CONSTRUCT

DESIGN

SURVEY
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