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OUT OF THE ORDINARY

Breaking down walls…..

The role of technology in evolving an industry

Investec Developer

Who am I?

This is what we know..

This can be scary

Banker | CSC | Web | Mobile | API

Real time connectivity for our clients increases

Not to be confused with…☺

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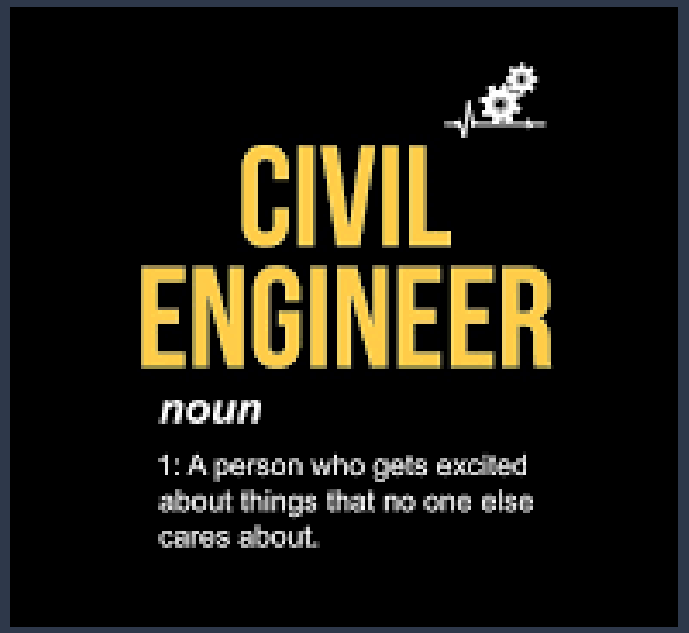

Disclaimer.. I am not a civil engineer☺ but I like to build things

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Engineers solve and think differently…

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What does banking have to do with Civil Engineering?

- Workforce issues
- Deteriorating Infrastructure
- Resource limitations
- Population growth
- Climate Change

“ the species that survives is the one that is best able to adapt and survive to their changing environment”

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Building sustainable solutions that scale

"We live in a very different world to our ancestors…be creative, innovative and not stuck in the past"

In a recent webinar, a panel of industry thought leaders outlined a few key trends that are shaping the future of civil engineering and the necessary actions that the future-ready civil engineer should consider moving forward.

The first may seem obvious, but as panelist Dr. Dennis Truax, former Chair, Director & Professor of the Richard A. Rula School of Civil & Environmental Engineering at Mississippi State University and current ASCE 2022 President, noted, we must recognize that we live in a different world than our ancestors and adjust accordingly. He added, "With limited resources, advanced technology, and population growth, we're looking at a very different future. I like to say preemptive maintenance versus preventative maintenance as a way to not just fix what we have, but look forward to what we need. Be creative, innovative and not stuck in the past."

Tech-Enabled Dimensions

A recent report prepared by Altman Vilandrie & Co., a strategic consulting group for ASCE, identified six key trends – alternative energy, autonomous vehicles, climate change, smart cities, advanced materials, and policy and funding – that will transform our built environment. The

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I’m here to tell you a story..

What I learnt from being part of an industry that is disrupted by technology …

12 years ago….digital revolution

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Digital Transformation Driving Business Model Disruption and Customer Relationship Disintermediation

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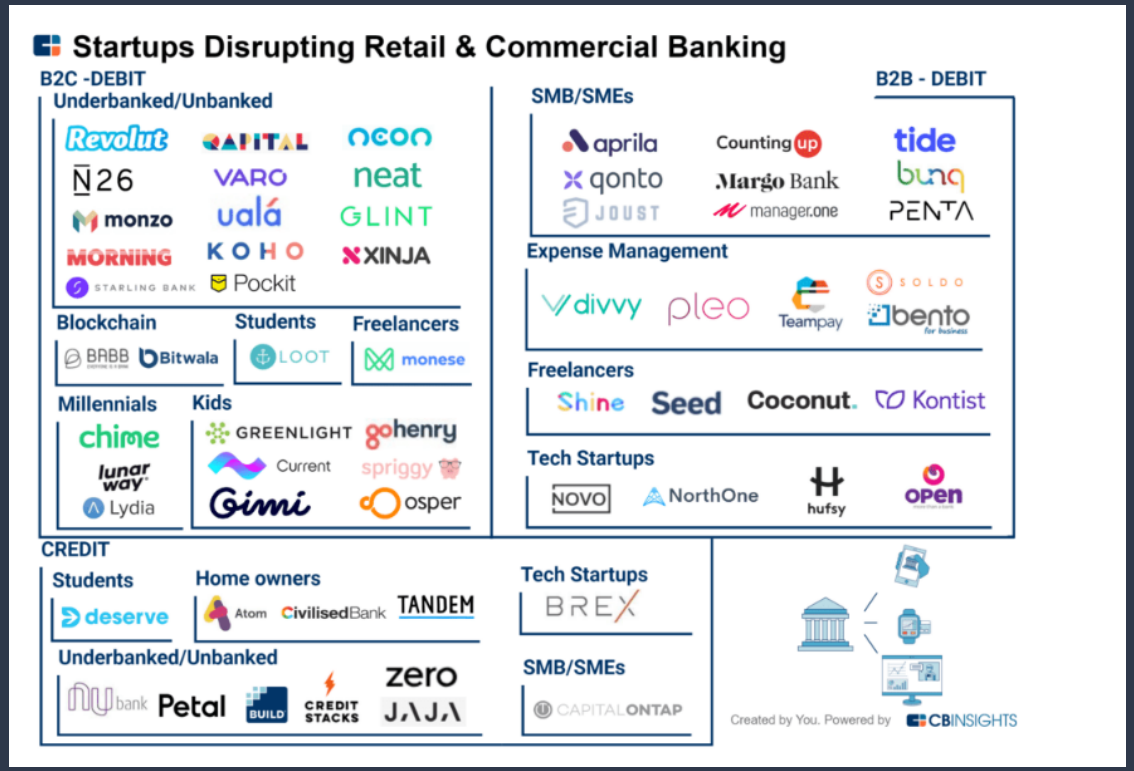
Disruption of Banking



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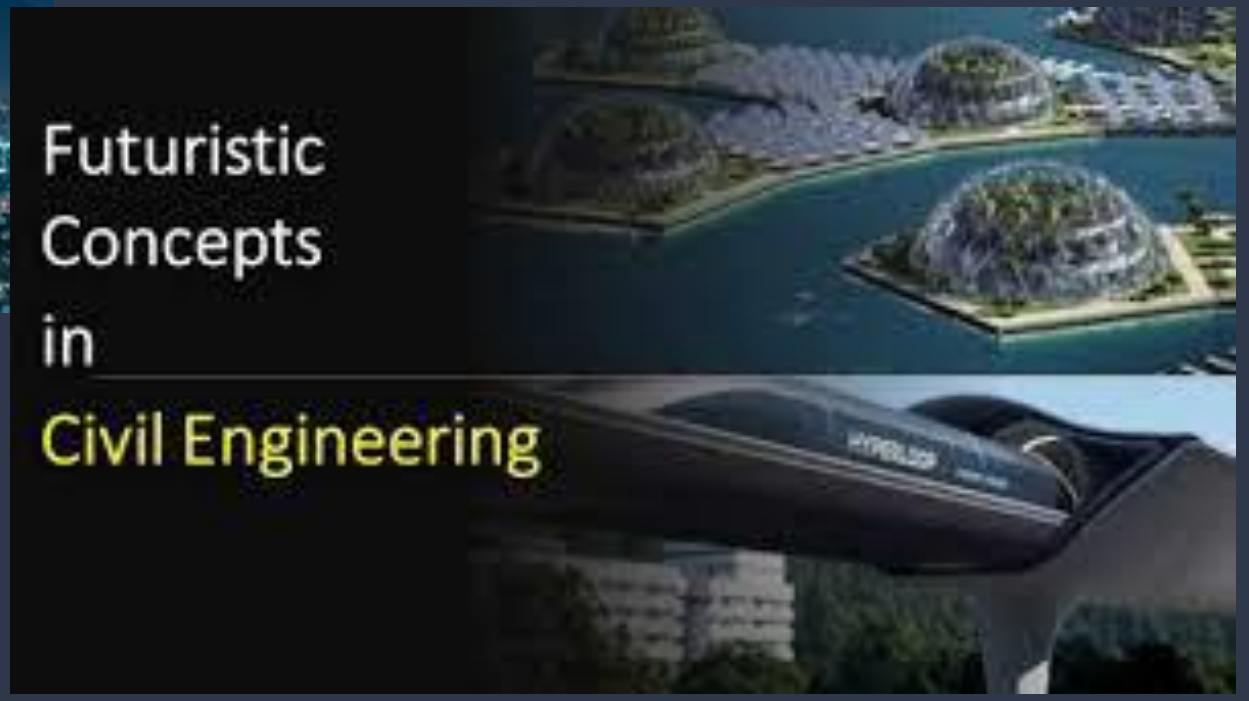
SMART CITY:
ARTIFICIAL INTELLIGENCE AND ITS IMPACT
ON CIVIL ENGINEERING


Futuristic
Concepts
in
Civil Engineering

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Lesson 1

If you have a curious mind, and love learning, you never have to be afraid of technology…

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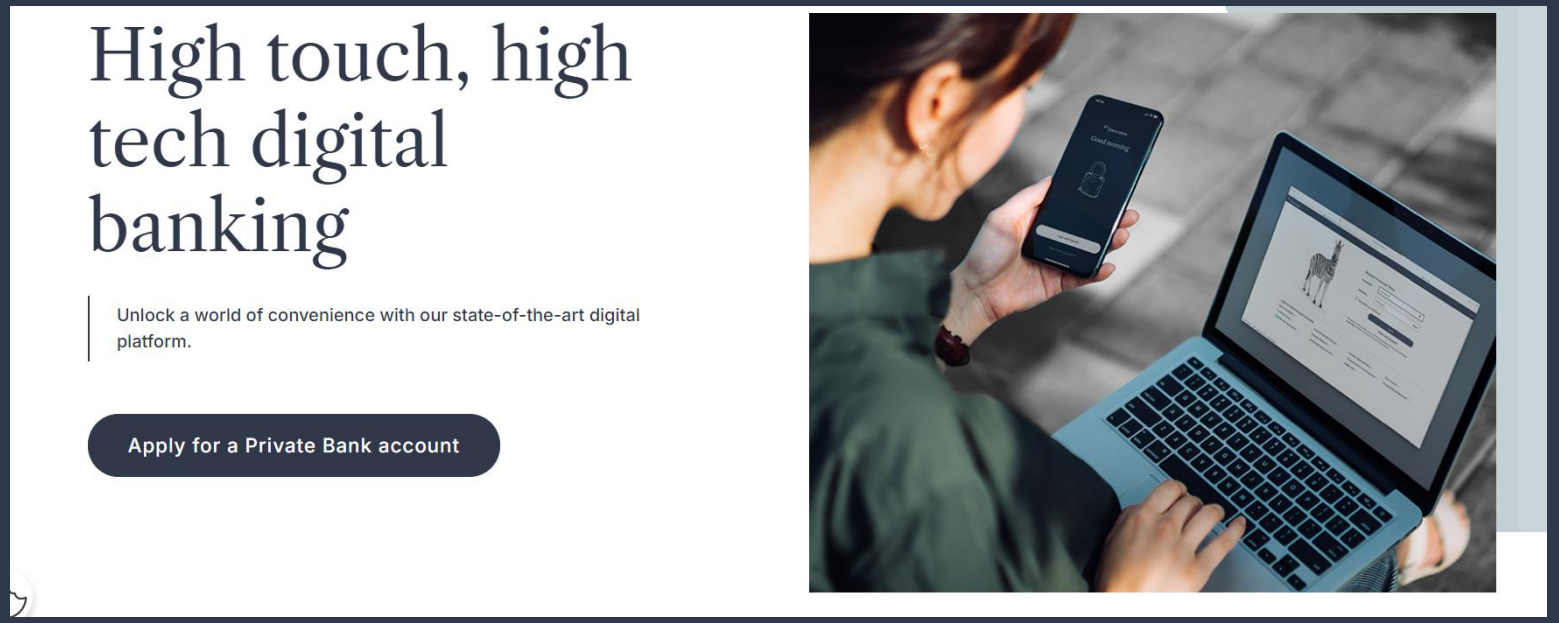
Fast forward 5 years later…..



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Lesson 2

You will struggle to keep pace with technology…

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Tech provides access…democratises the world

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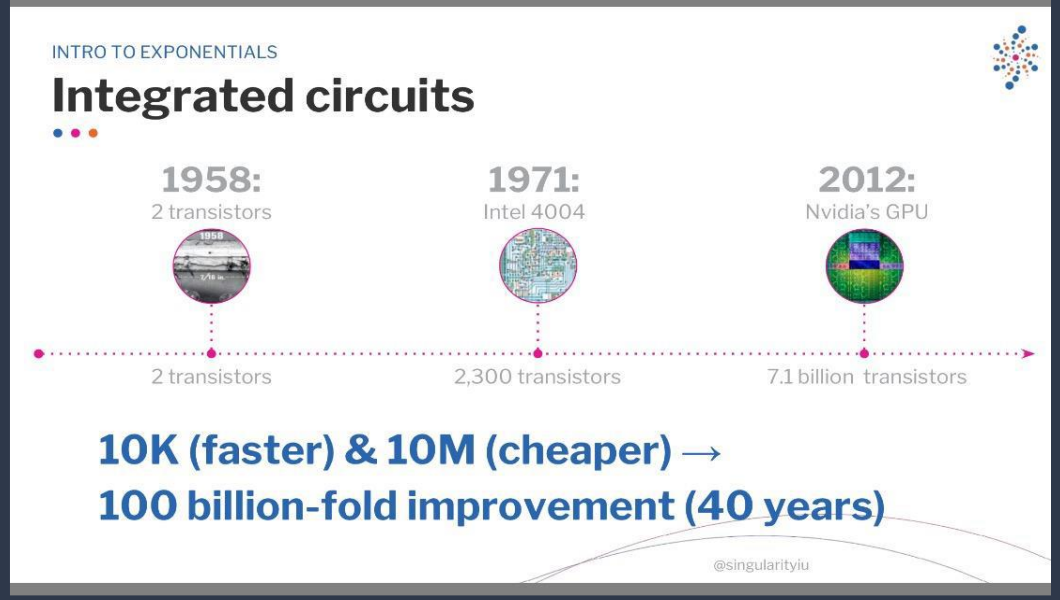
INTRO TO EXPONENTIALS
What is driving this?
Moore's Law:
Price performance
of computers doubles
every 18 – 24 months
– Gordon Moore

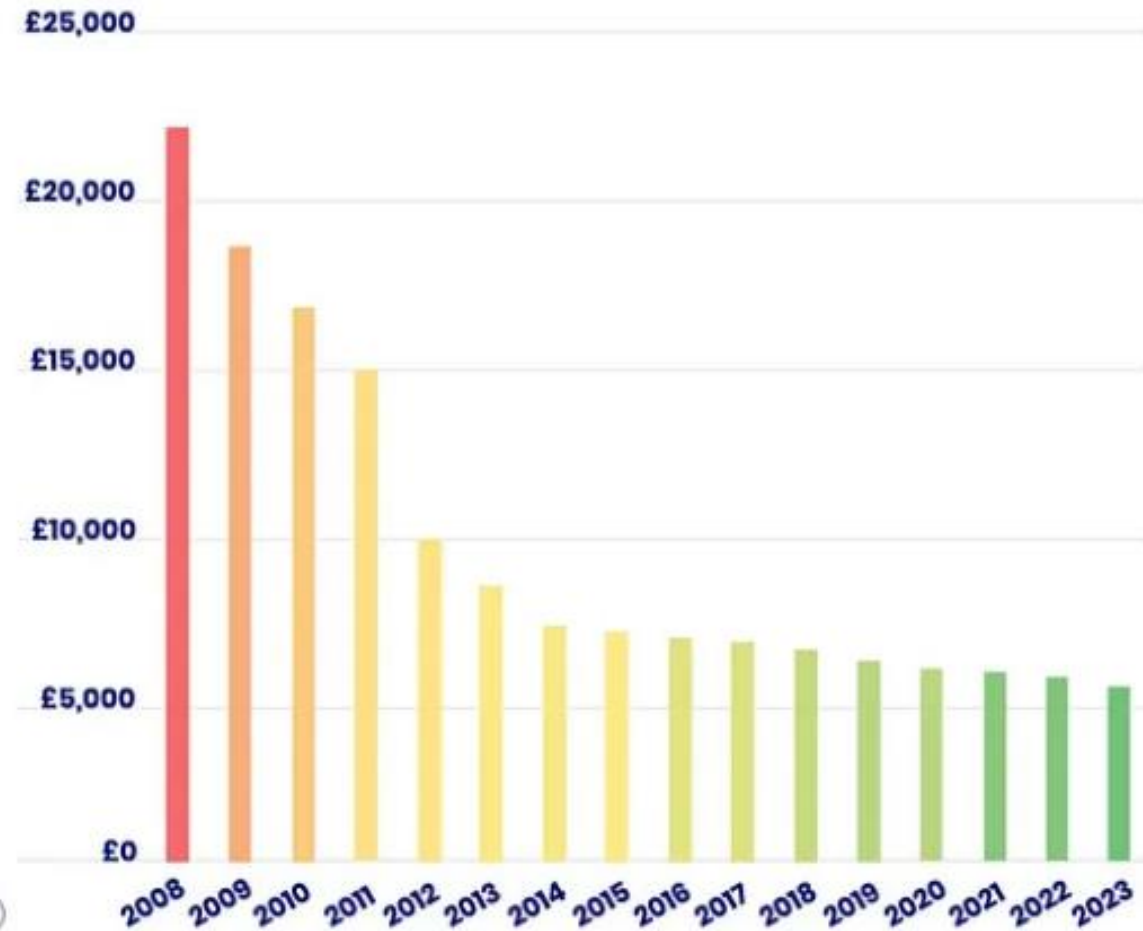

INTRO TO EXPONENTIALS
Integrated circuits
1958:
2 transistors
1971:
Intel 4004
2012:
Nvidia's GPU
2 transistors
2,300 transistors
7.1 billion transistors
10K (faster) & 10M (cheaper) →
100 billion-fold improvement (40 years)
@singularityiu

2023

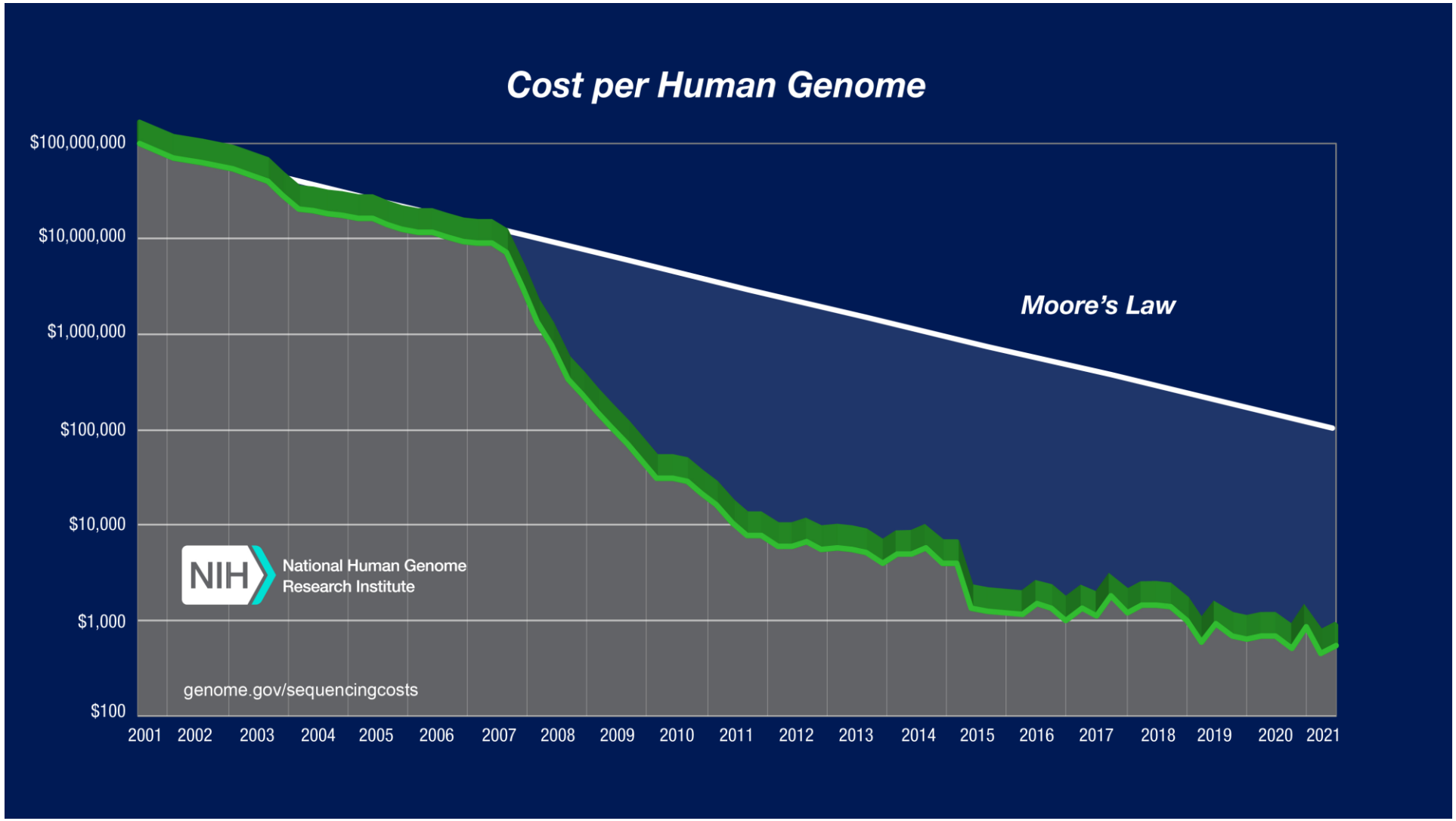
THE AVERAGE COST OF INSTALLING SOLAR PANELS HAS REDUCED

80%

SINCE 2008



Source www.makenergy.com



Out of the Ordinary®

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SCARCITY VS. ABUNDANCE

In only 20 years...

An entire store's worth of electronic products all fit in your pocket...

...and come for free on your phone as apps!

@singularityu

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Lesson 3

You must sometimes break down walls to see beyond your current space…

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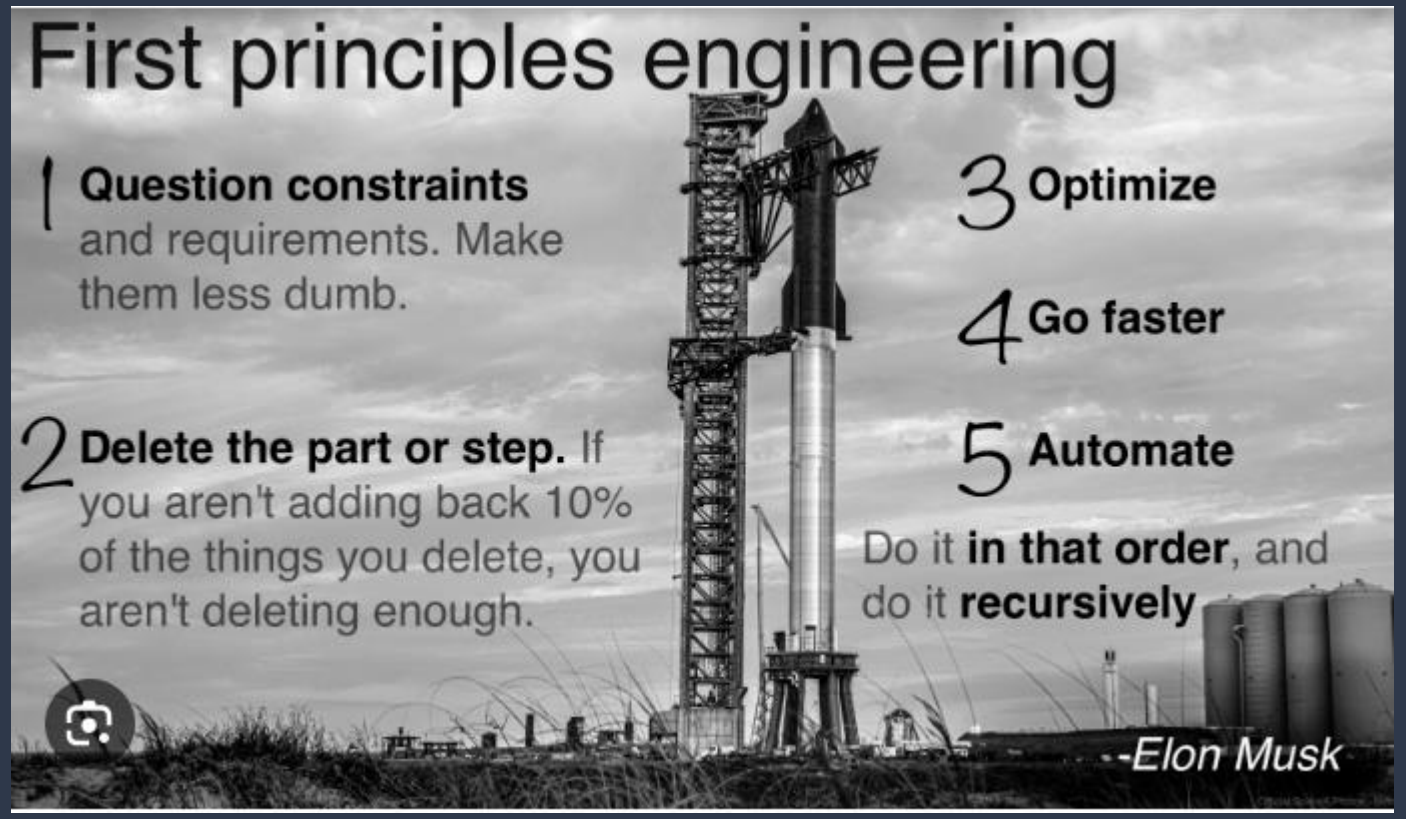
"Possibly the most common error of a smart engineer is to optimise a thing that should not exist." - Elon Musk



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We believe that we can make a difference in growing the SA economy by growing the engineering and technology sector.

Engineers scale 10x

Investec Developer

One fateful day..

In late December 2019, a band of brave souls* decided to take a leap into the unknown…

- We had a new product called programmable banking that we thought could add value to the tech segment (and maybe to business clients too..)

* Lourens, Cumesh, Wouter, Keith, Devina, Wayne…. ☺

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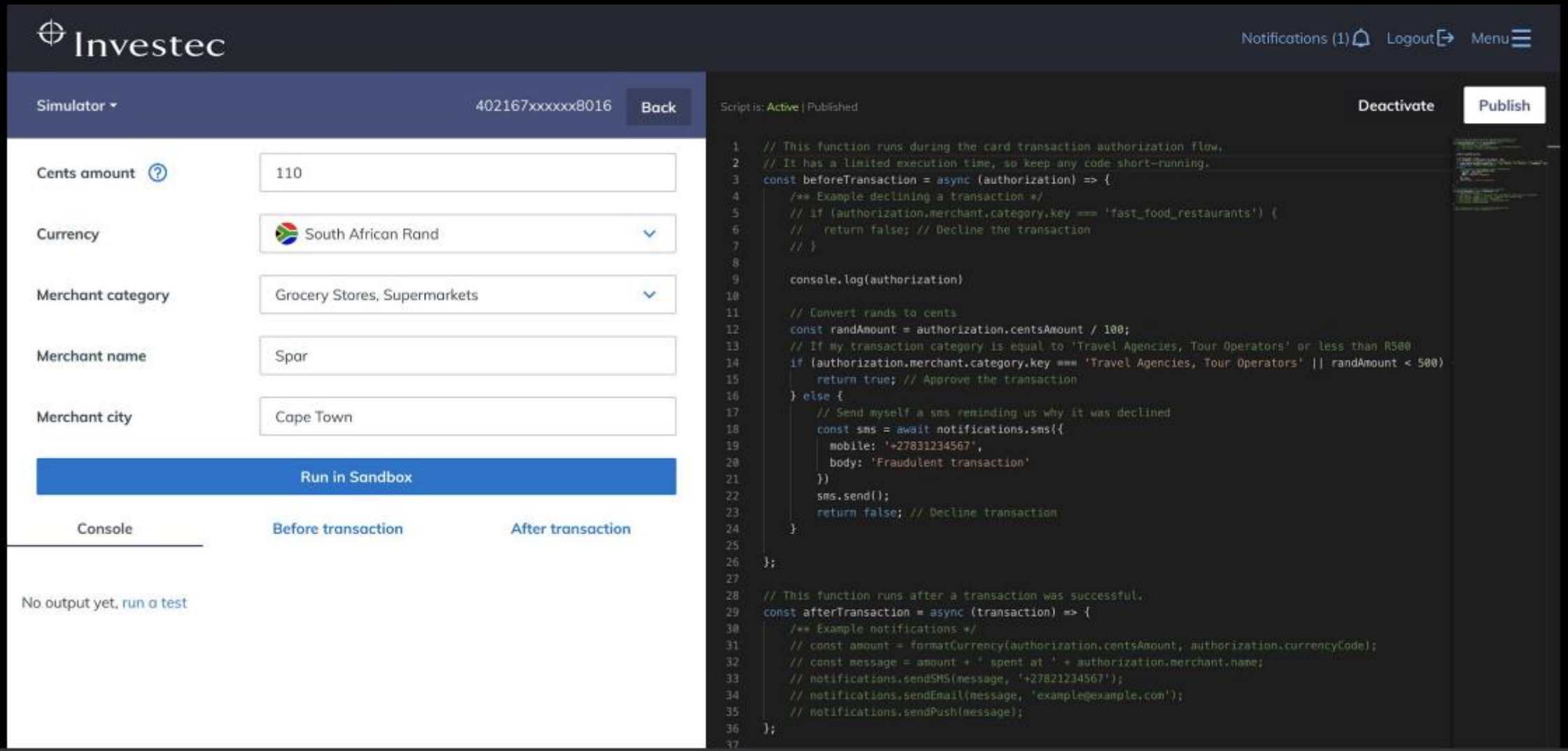
nnection lost

A hosted code editor



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Introducing

Investec *Developer*

Banking Integration API's

Access your account data and transactional capability using Direct API's

Programmable Card Accounts

Deploy JavaScript code to program rules on cards, limit spend and track expenses.

Programmable Banking Community

Share ideas and co-create innovative solutions with other clients and developers across industries.

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Lesson 4

Get comfortable with not being the most knowledgeable person in the room

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Programmable Banking Community

The Investec Developer Community brings together software developers, innovators, and tech enthusiasts passionate about shaping the future of banking.

"I love the fact that I can ask questions and get help with problems, and help others as well."

Anri Goosen
Community Member

COMMUNITY EXPERIENCE

Get involved by participating in some of our community activities:

- **Monthly meetups**: See what community members are building at our monthly demos.
- **Community chats**: Engage with other developers and be the first to know about new releases via the Investec Developer Community Slack.

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"For us, it was a massive game-changer.... We know at any time how much money we've made, or how much profit in that day instantaneously. A massive saviour. "

Michael Louis | Chief Technology Officer

Investec Developer Beta Programme

Join the Investec Developer Beta Programme and supercharge your finances with low-code tools.

Beta

Spreadsheet Banking

Get access to your Investec accounts and transactions inside an Excel spreadsheet.

OneCart

Spreadsheet Banking BETA

Download add-in

Get access to your banking transactions and accounts within Excel by downloading the Spreadsheet Banking add-in.

Disconnected

Corporate Business

Connect your Corporate Business account.

Connect

Connected

Private Bank accounts

Manage your Private Individual or Business connection.

Add or remove accounts | Disconnect

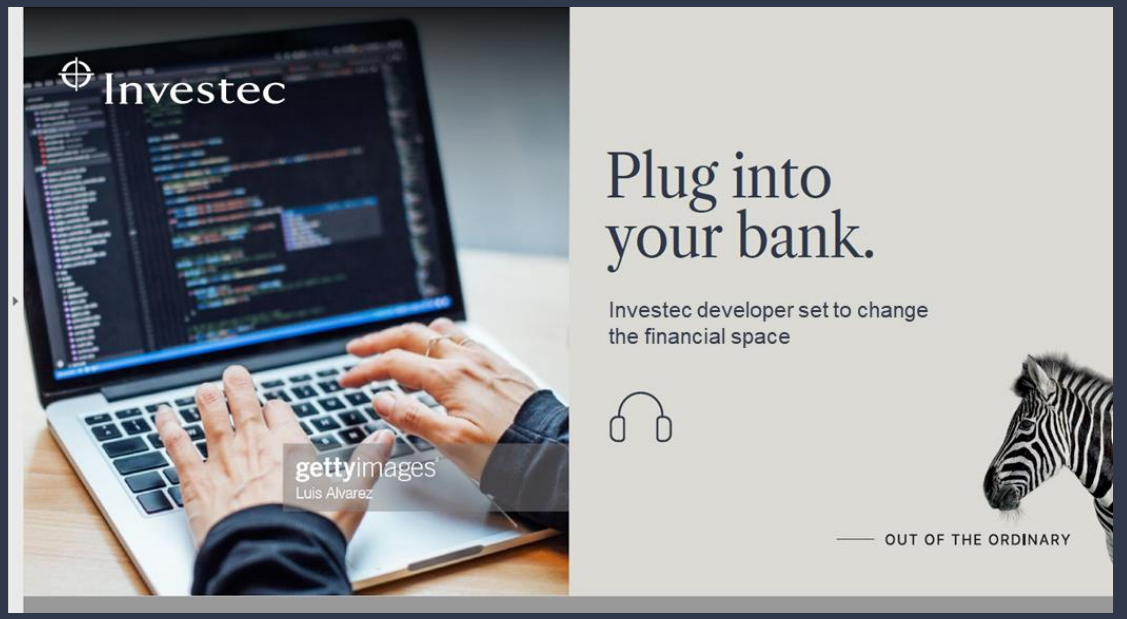
Disconnected

Investec for Intermediaries

Connect your Investec for Intermediaries account.

Connect

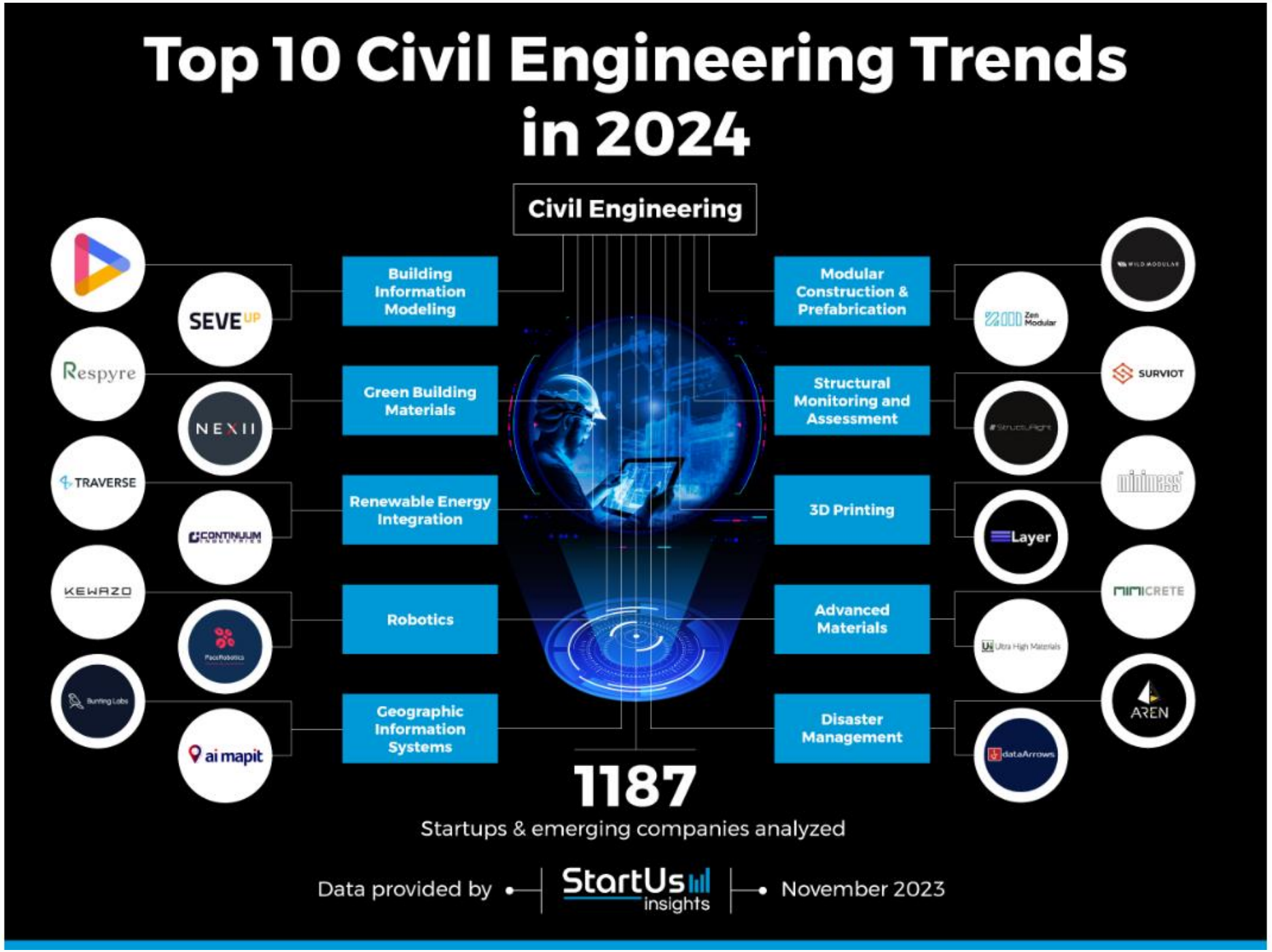
Investec



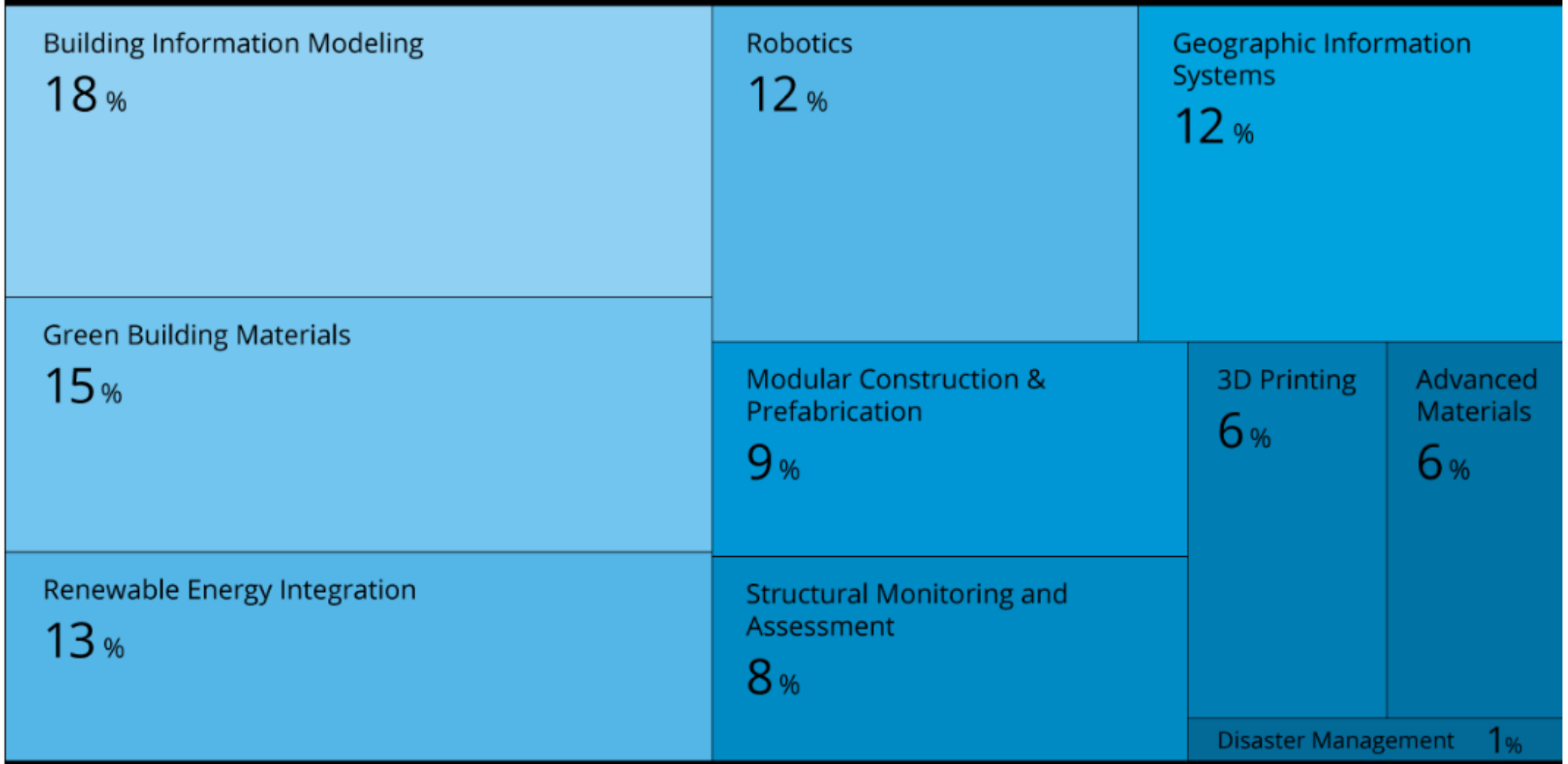
Lesson 4

Your world as you know it is changing

Your career as you know it is evolving


Top 10 Civil Engineering Trends in 2024
Civil Engineering
Building Information Modeling
Green Building Materials
Renewable Energy Integration
Robotics
Geographic Information Systems
Modular Construction & Prefabrication
Structural Monitoring and Assessment
3D Printing
Advanced Materials
Disaster Management
SEVEUP
Respyre
NEXII
TRAVERSE
CONTINUUM
KEWAZO
ai mapit
SURVIOT
Layer
AREN
dataArrows
1187
Startups & emerging companies analyzed
Data provided by
StartUs insights
November 2023

Impact of Top 10 Civil Engineering Industry Trends



This tree map illustrates the top 10 innovation trends & their impact on Civil Engineering

StartUs insights

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November 2023

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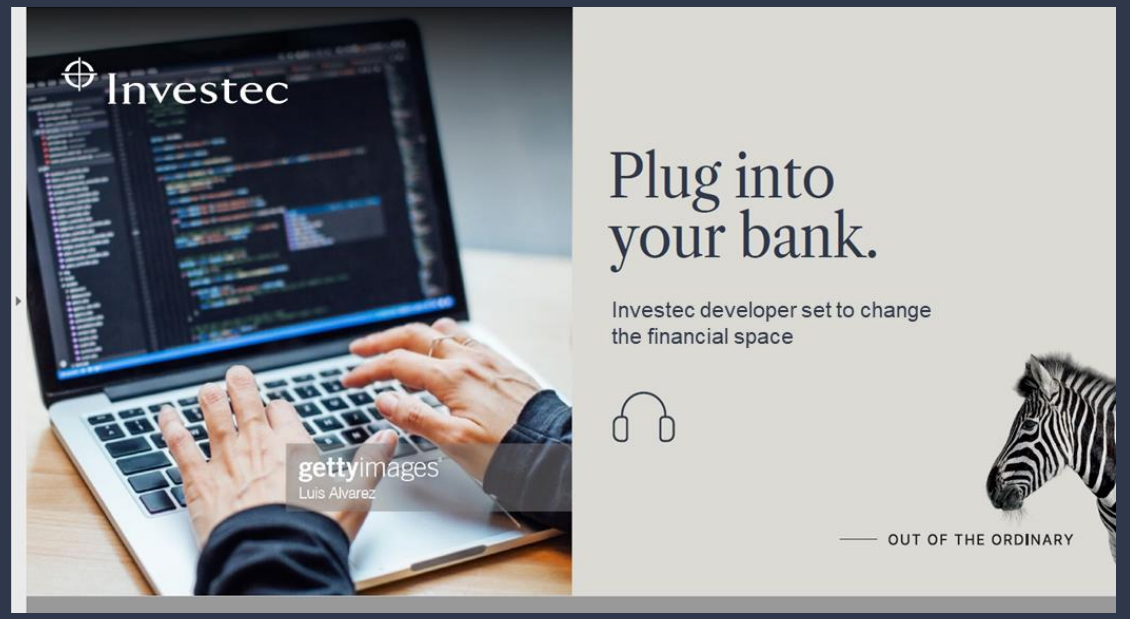

Lesson 5

Be ready to dream big again…

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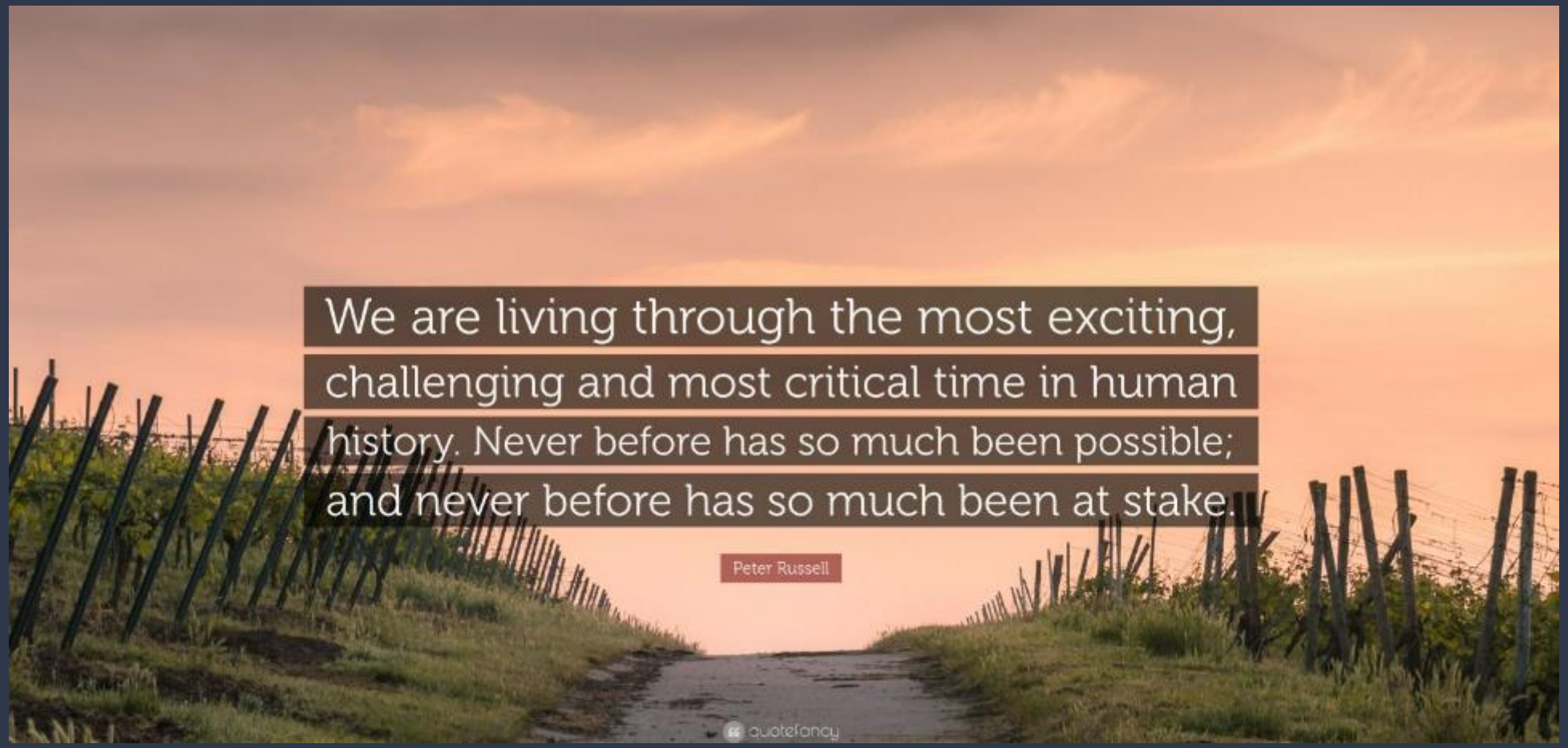
We are living through the most exciting, challenging and most critical time in human history. Never before has so much been possible; and never before has so much been at stake.
Peter Russell
quotefancy

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As a business have you ever wished that your bank was integrated directly into your business systems?

That you could track moneys flowing in and out in near real-time and reconcile your ledger as its created

What about initiating a payment from your systems, no more file downloads and uploads …

Imagine a world where your bank feed could integrate with your spreadsheets and you could create rules on your corporate cards to manage your spend.

FUTURE WORLD VISION | Presented by ASCE

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Why FWV | Cities of the Future Movie | News & Events | Perspectives | Resources | Products & Experiences

Explore the Cities of the Future

Imagine stepping 50 years into the future. Smart cities are designed to optimize sustainability and resilience. Innovation and automation are everywhere. Renewable energy is a primary power source. Space-based solar power provides energy all day. And transport is easy with personal travel pods and drone deliveries. This isn't science fiction. Engineers are making plans for this future world right now, and it's coming to the giant screen! "Cities of the Future" brings Future World Vision concepts to life as today's engineers work to solve the world's most pressing challenges for tomorrow.

REIMAGINE THE FUTURE

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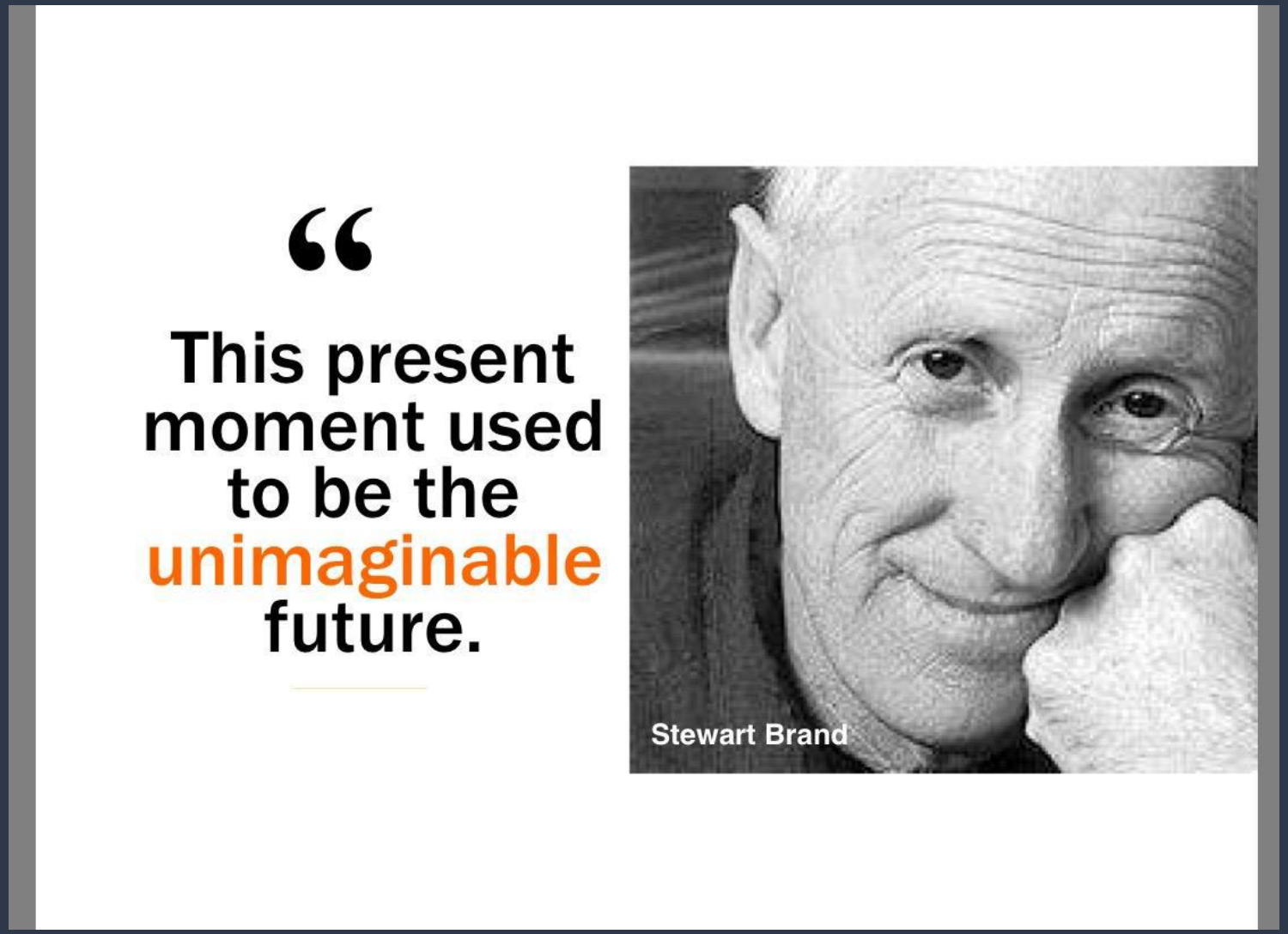
Never doubt that you, and your small team can create the unimaginable future…



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THE MAN IN THE ARENA

It is not the critic who counts; not the man
who points out how the strong man
stumbles, or where the doer of deeds could
have done them better. The credit belongs
to the man who is actually in the arena,
whose face is marred by dust and sweat and
blood;who strives valiantly; who errs,
who comes short again and again,
because there is no effort without error and
shortcoming; but who does actually strive to
do the deeds; who knows great enthusiasms,
the great devotions; who spends himself in a
worthy cause; who at the best knows in the
end the triumph of high achievement,
and who at the worst, if he fails, at least fails
while daring greatly, so that his place shall
never be with those cold and timid souls
who neither know victory nor defeat.

Theodore Roosevelt

Excerpt from the speech "Citizenship In A Republic" Paris, France. April 23, 1910

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Thank you