



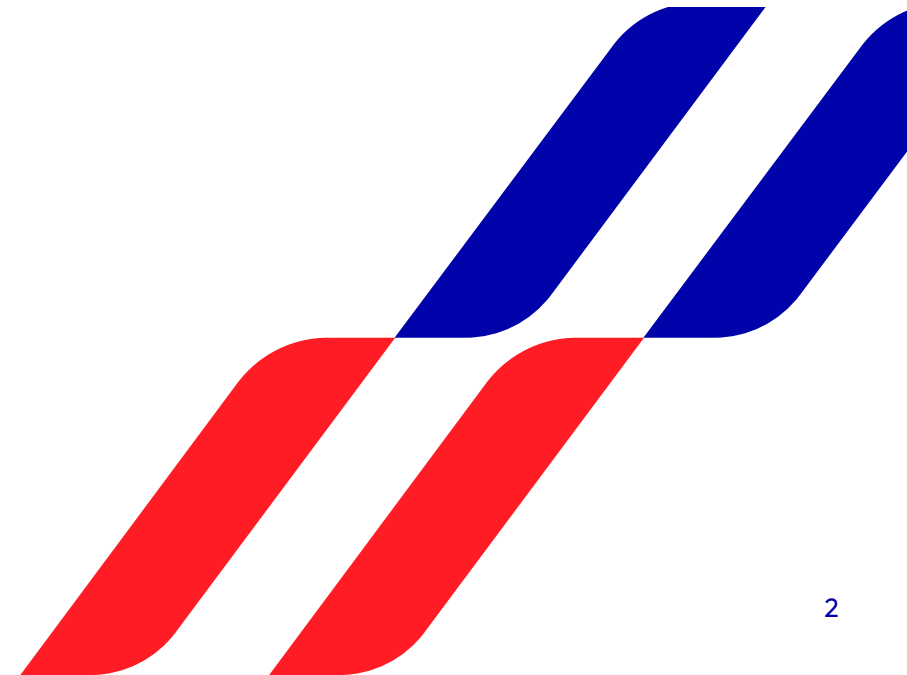
EMEA Innovation Day

Webinar

May 31st, 2023

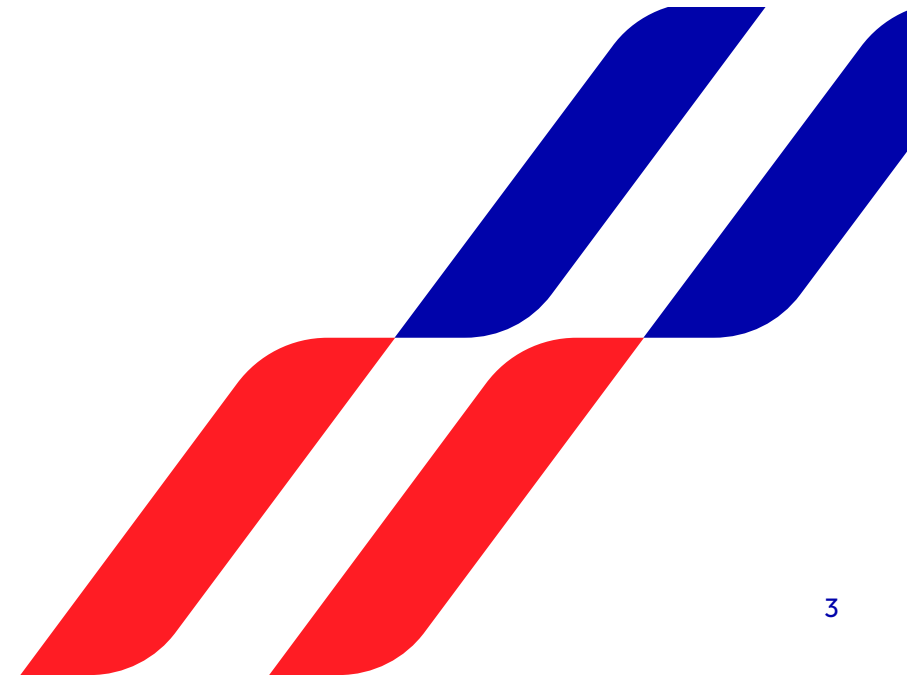
Agenda

- Introduction
 - Eva Unzué
- EMEA representatives in the 2022 Innovation Global Executive Review
 - Next Generation Alternative Fuels: Tomás Sánchez-Corral & Francisco Iniesta
 - Bio-Sourced Admixtures: Wolfgang Salmen
- Why is Innovation important for EMEA region?
 - Andrew Spencer
- The future of Contech industry
 - Juan Nieto (Zacua Ventures)
- Closing
 - Sergio Menéndez
- Q&A
 - All



Agenda

- Introduction
 - Eva Unzué
- EMEA representatives in the 2022 Innovation Global Executive Review
 - Next Generation Alternative Fuels: Tomás Sánchez-Corral & Francisco Iniesta
 - Bio-Sourced Admixtures: Wolfgang Salmen
- Why is Innovation important for EMEA region?
 - Andrew Spencer
- The future of Contech industry
 - Juan Nieto (Zacua Ventures)
- Closing
 - Sergio Menéndez
- Q&A
 - All



Next Generation AF

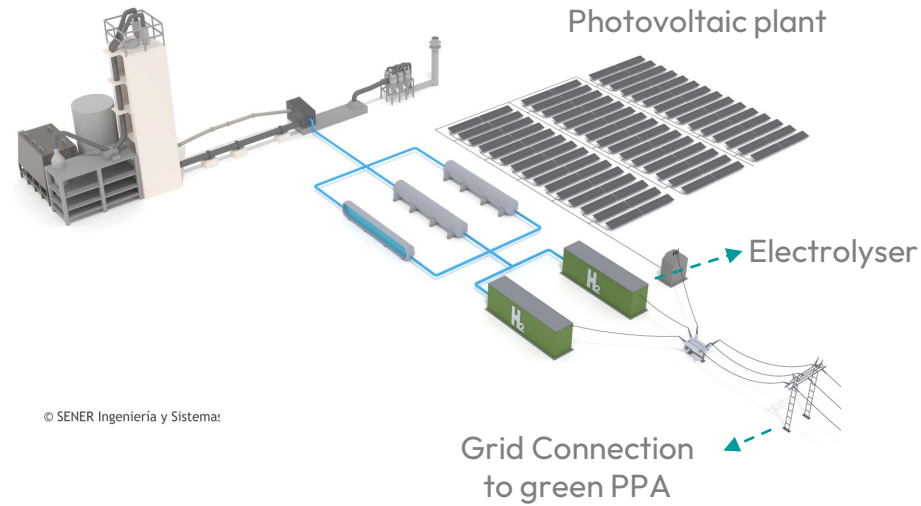
Green H₂ Hyper injection



**Tomás
Sánchez-
Corral**



**Francisco
Iniesta**



50x

UTIS H₂ usage

Green H₂ benefits

Alternative Fuels
% increase

+25p.p.

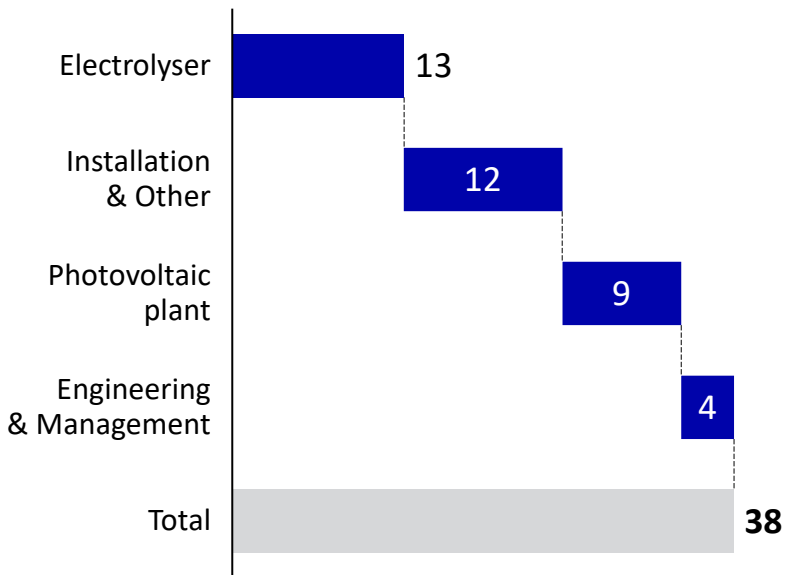
Lower CO₂
emissions

-55kg/Tn Ck

Next Generation AF

Green H₂ Hyper injection – Financials

Investment (M €)



Financial KPIs

1,455 tons of Green H₂/year

Green H₂ price¹: <5 €/kg

CO ₂ savings ²	Fuel extra cost ²	Net savings
-3.8€/Tn Ck	+2.0€/Tn Ck	= -1.8€/Tn Ck

Highlights

- Attractive financials.
- Proven technology from a technical point of view.
- Huge positive impact on environment.

¹Figures based on preliminary estimates

²CO₂ price 70€/ton; Coke price 100 €/ton

Next Generation AF

Clyngas – Waste Gasification



Tomás Sánchez-Corral



Francisco Iniesta

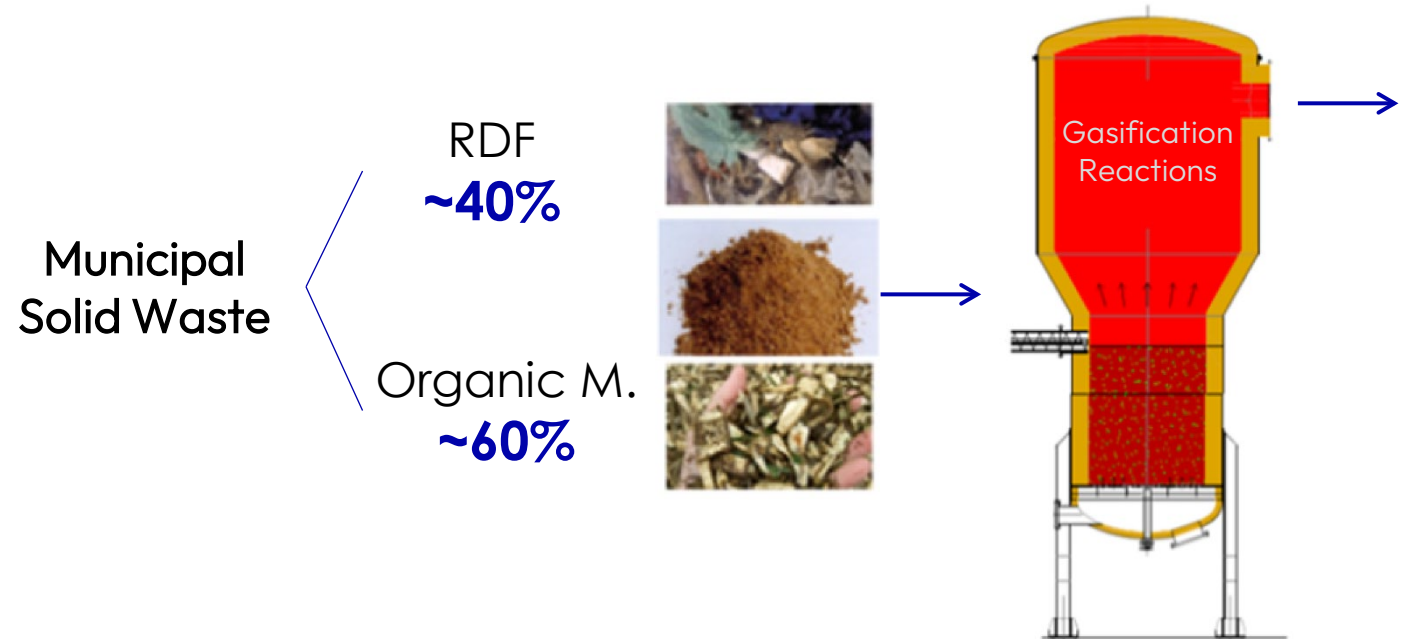


Pilot: Alicante



Clyngas benefits

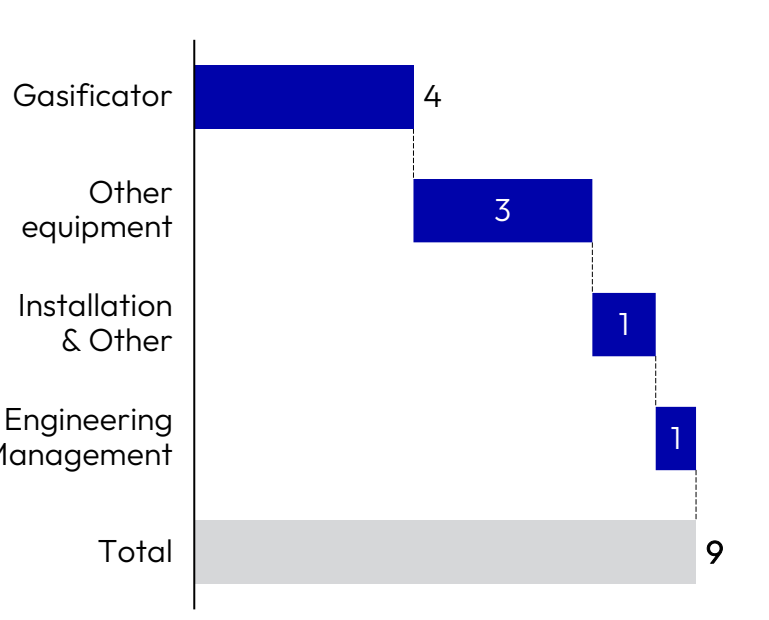
- Alternative Fuels % increase **+20_{p.p.}**
- Lower CO2 emissions **-30_{kg/Tn Ck}**
- Humidity removal
- Chlorine elimination



Next Generation AF

Clyngas – Waste Gasification – Financials

Investment (M €)



Financial KPIs



Highlights

- Strongly solid economic benefit.
- Pioneer in our industry.
- Relevant positive effect on sustainability.

Grant Agreement signed in May

Agenda

- Introduction
 - Eva Unzué
- EMEA representatives in the 2022 Innovation Global Executive Review
 - Next Generation Alternative Fuels: Tomás Sánchez-Corral & Francisco Iniesta
 - Bio-Sourced Admixtures: Wolfgang Salmen
- Why is Innovation important for EMEA region?
 - Andrew Spencer
- The future of Contech industry
 - Juan Nieto (Zacua Ventures)
- Closing
 - Sergio Menéndez
- Q&A
 - All

Bio-Sourced Admixtures

For more sustainable construction



**Wolfgang
Salmen**



Multirange
Bio Admixtures

- Locally sourced
- Renewable
- Bypass (industrial waste)
- Raw material specialties

Bio Admix. benefits

- Lower CO2 emissions **-70%** (Scope 1)
- **Excellent performance** when combined with new generation binder technologies
- Higher cost efficiency
- Potential **Financial Benefit**
EMEA **>10M** USD/year
GLOBAL **>20M** USD/year

ISO FLEX **BIO**
GER Q1/2023

ISO PLAST **BIO**
POL Q2/2023

ISO FLOW **BIO**
Q4/2023

Agenda

- Introduction
 - Eva Unzué
- EMEA representatives in the 2022 Innovation Global Executive Review
 - Next Generation Alternative Fuels: Tomás Sánchez-Corral & Francisco Iniesta
 - Bio-Sourced Admixtures: Wolfgang Salmen
- Why is Innovation important for EMEA region?
 - Andrew Spencer
- The future of Contech industry
 - Juan Nieto (Zacua Ventures)
- Closing
 - Sergio Menéndez
- Q&A
 - All

Andy Spencer

VP Corporate Affairs Sustainability & ERM
Sustainability & Environmental



Why is Innovation
important in EMEA
region?

A woman in a grey blazer and a man in a dark blue sweater and safety glasses are leaning over a piece of laboratory equipment. The man is holding a small container. The background shows a modern laboratory with various pieces of equipment and a clean, professional environment. A large blue graphic overlay is on the right side of the image.

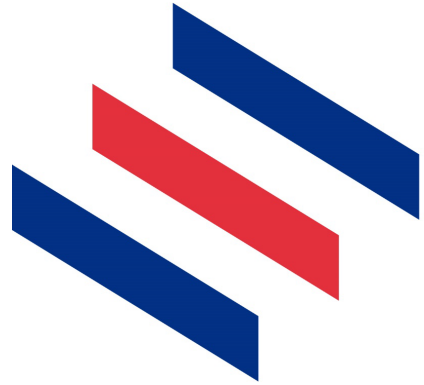
FOSTERING INNOVATION

Stay curious. Search for new ways to disrupt and improve the future of our industry. Research and adopt new trends, technologies, and business models. Pursue an entrepreneurial mindset by testing new solutions. Embrace risk, learn from failure, and iterate fast.

Agenda

- Introduction
 - Eva Unzué
- EMEA representatives in the 2022 Innovation Global Executive Review
 - Next Generation Alternative Fuels: Tomás Sánchez-Corral & Francisco Iniesta
 - Bio-Sourced Admixtures: Wolfgang Salmen
- Why is Innovation important for EMEA region?
 - Andrew Spencer
- The future of Contech industry
 - Juan Nieto (Zacua Ventures)
- Closing
 - Sergio Menéndez
- Q&A
 - All

The future of Contech Industry by



Zacua Ventures

THE BUILDERS FUND





Juan Nieto

General Partner,
Europe & APAC

Zacua Ventures is a global early-stage ConTech fund tackling the world biggest challenges across Sustainability, Productivity and Urbanization in the Built Environment

We are backed by the most innovative construction companies across the globe, including Cemex, and have regional presence in San Francisco, Madrid, and Singapore



Married, proud father on a 1-year-old daughter, and son of a tech entrepreneur

Civil (Structural) Engineer by training, worked in Construction, Strategy Consulting, and Finance, before joining the ConTech industry leader - Cemex Ventures - as an Investment Manager for Asia

Agenda

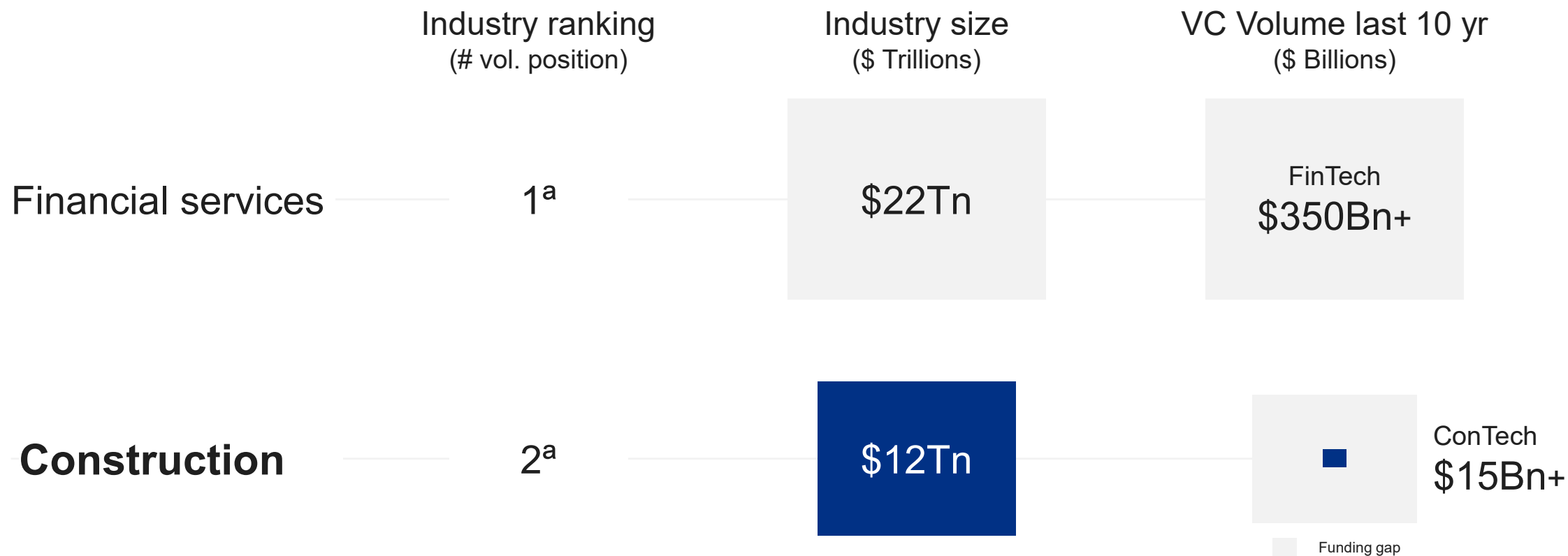
01 Where are we coming from?

02 What are we seeing now?

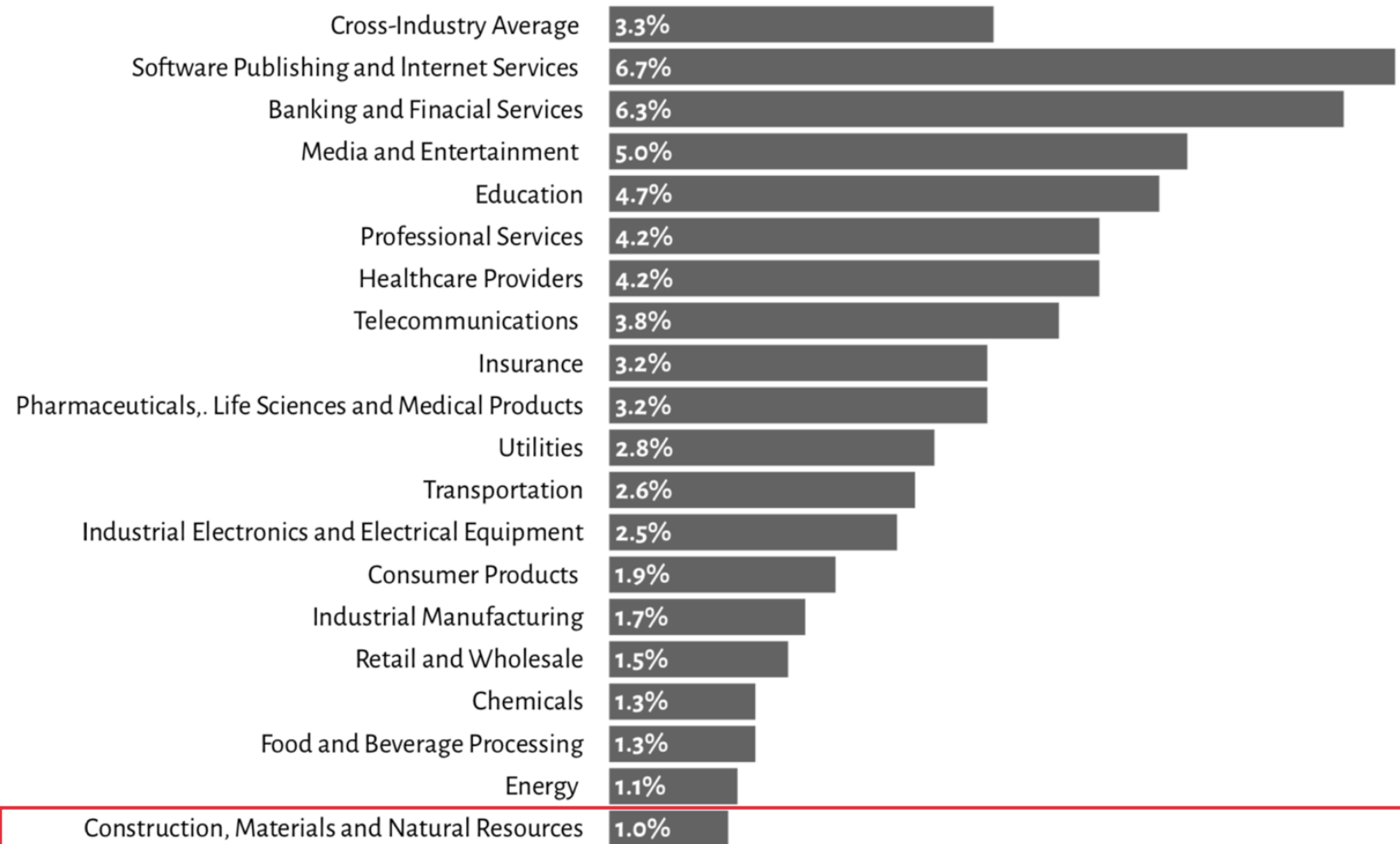
03 What comes next?

Construction, the 2nd largest industry worldwide

Clearly **underinvested** in innovation and technology

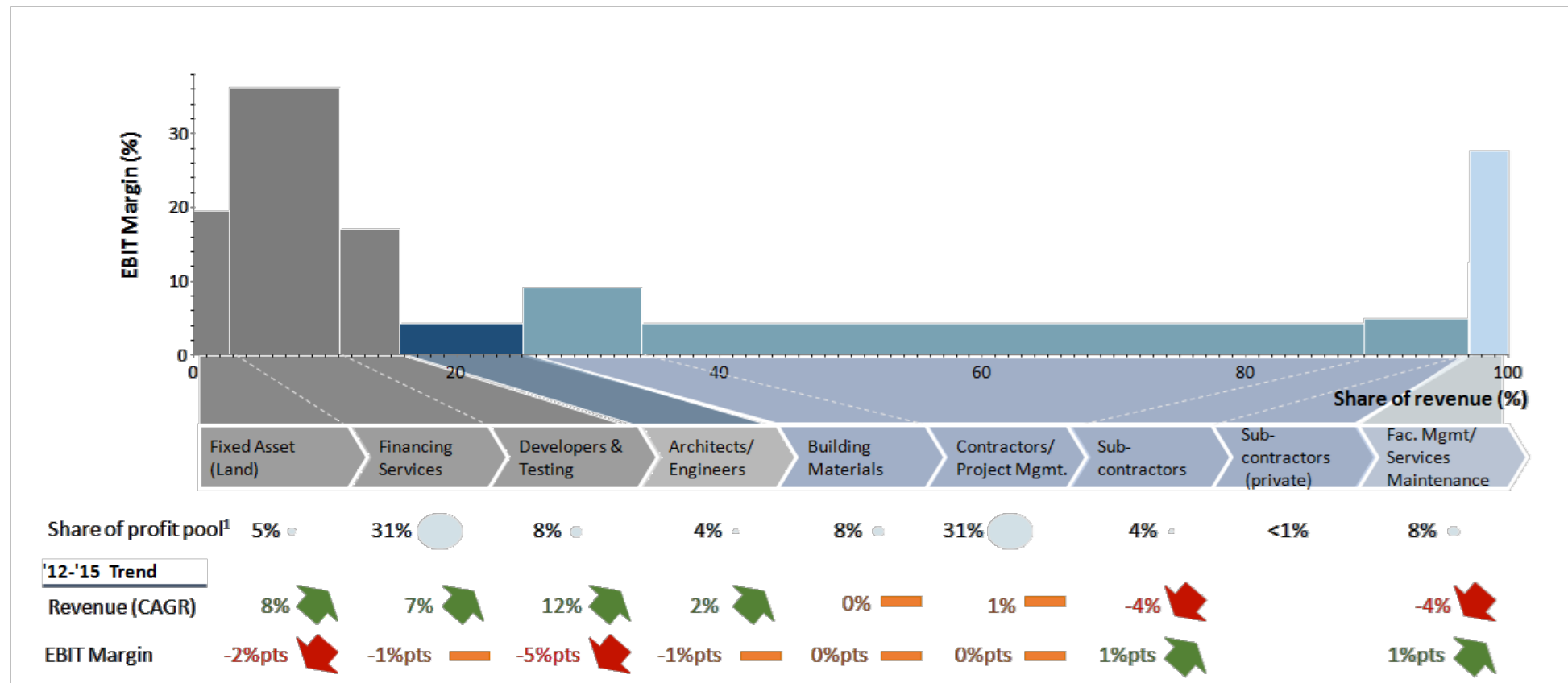


Construction is the industry with the lowest IT expending over sales



Several industry nuances prevents it from a higher expending in innovation

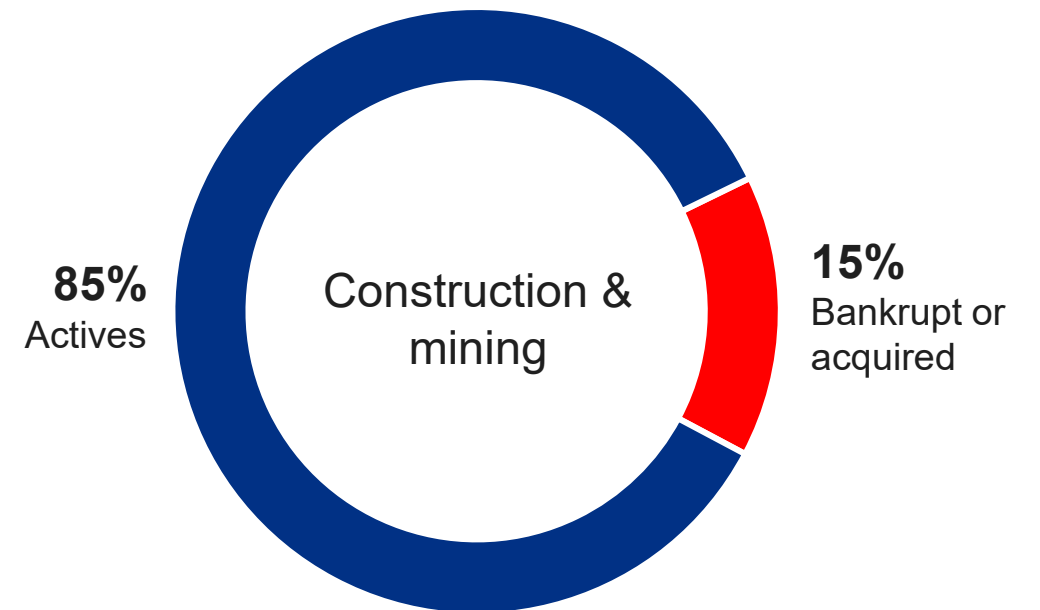
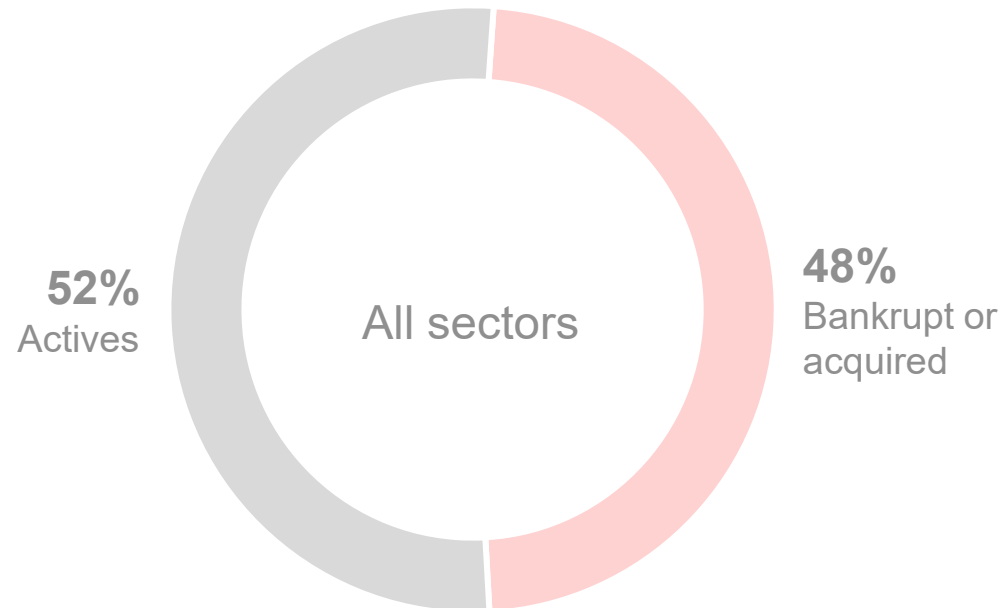
Originated by its high variability, fragmentation and an uneven utility distribution



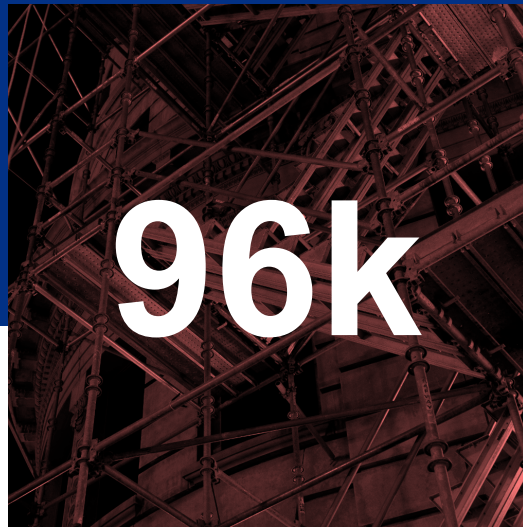
Notes: Sum of average EBIT = 100% Note: This database only has financial data for publicly listed companies, therefore, developed nations and formal industries are over-represented. Source: N = 1656 companies researched, S&P Capital IQ

Other industries have already been disrupted

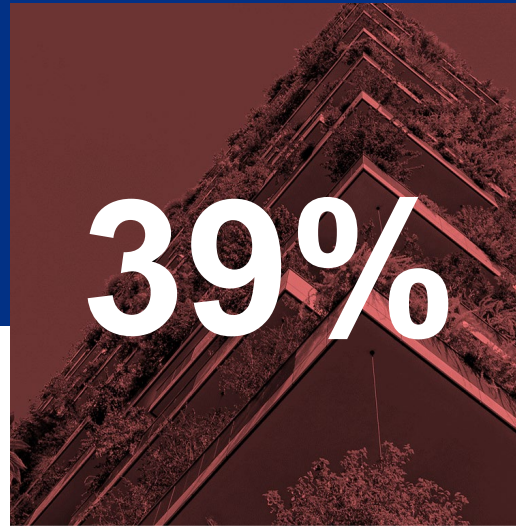
And construction won't be an exception



With an enormous potential for impact



New housing units to be built per Day by 2030 (for 3Bn people)



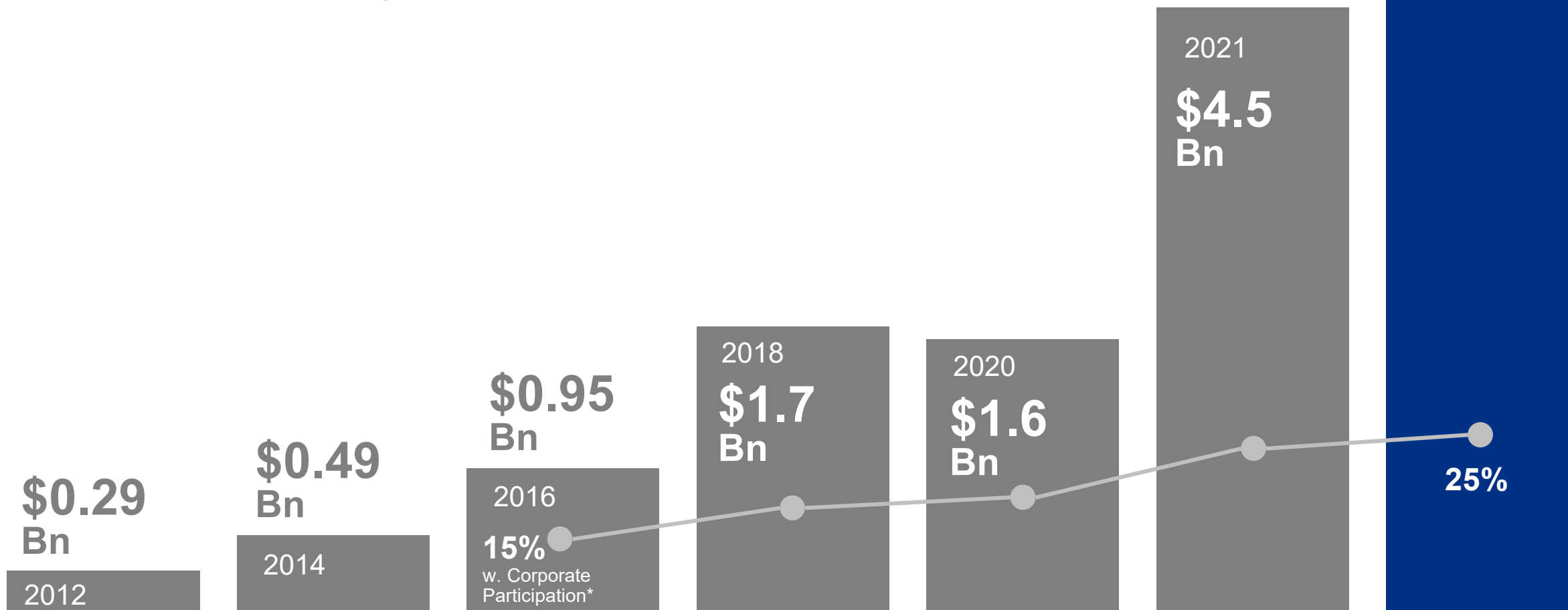
Of energy related CO2 emissions



Infrastructure investment gap in the next 20 years

The industry is on the verge of breaking out

Corporate participation is **higher than ever**



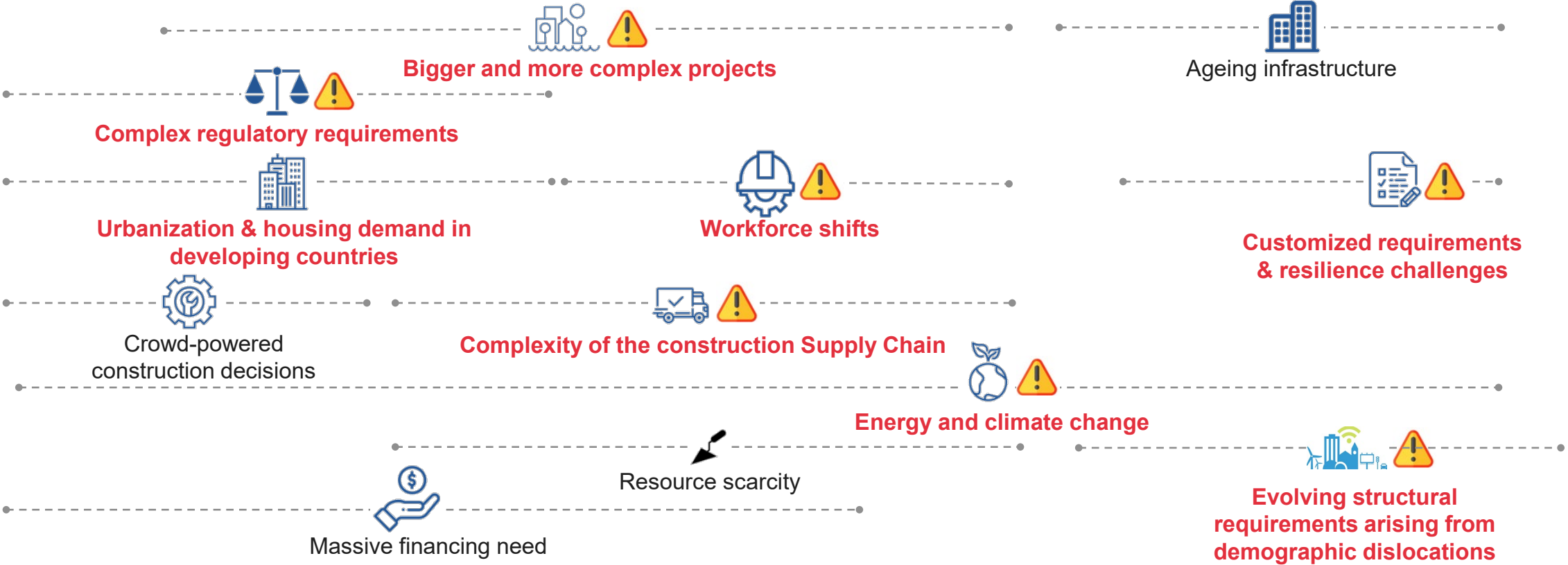
Agenda

01 Where are we coming from?

02 What are we seeing now?

03 What comes next?

Several significant megatrends shape the emerging Construction Tech landscape



Covid-19 has set a tipping point for technology adoption in the industry

Accelerating site digitization

Replacing standard pen-and-paper processes

Increased focus on safety measures

Safety as a pillar for project continuity... but also impacting productivity

New communication channels

Digital channels improved coordination among different stakeholders involved in the site

Increased push for Digital Platforms

New information systems: in the cloud and interconnected

With increased pressure on Sustainability efforts

Net-zero goals in the built environment

Increased pressure to adopt CCUS technologies. Reduce assets carbon footprint

New & recycled materials (circularity)

New business models optimized for waste, water management, and material re-utilization

Green energy sources

Alternative fuels (renewables, turquoise and green H2, etc.), waste to energy

Asset renovation and retrofitting

Adapting existing assets to make them more sustainable, EU renovation wave

Three major Themes are apparent



Productivity

Making the Built Environment
a safer and efficient place



Sustainability

Building for the
future generations

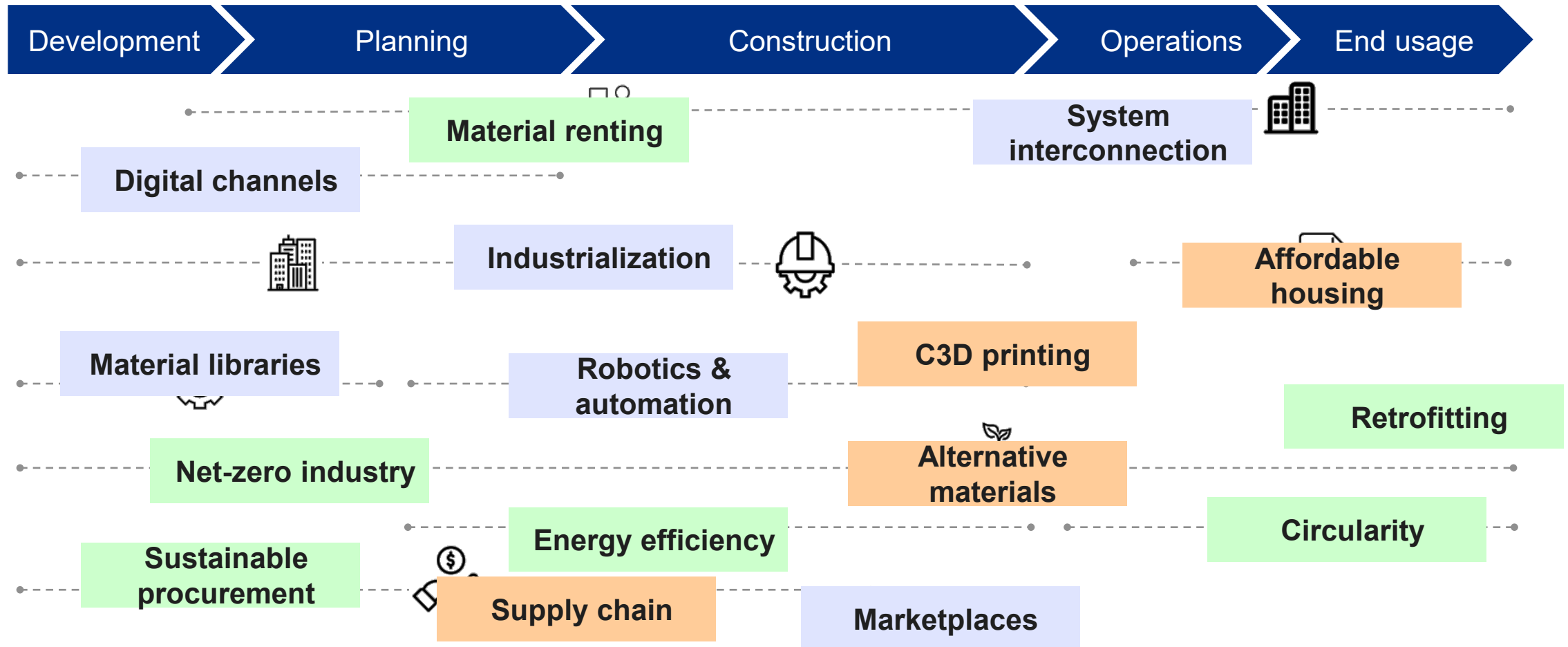


Urbanization

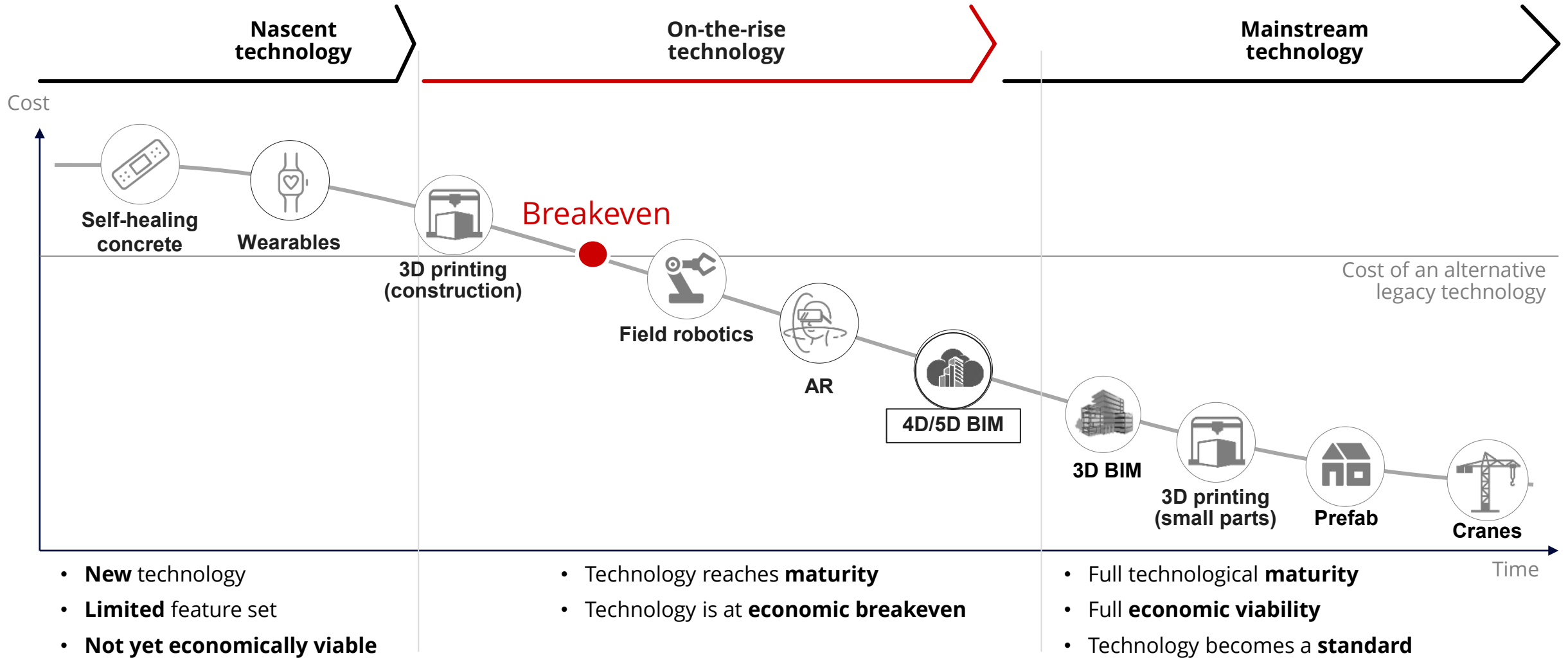
Making the Built Environment
more responsive and inclusive



Technologies shaping the Future of Construction



Adoption varies significantly for the various technologies



Agenda

01 Where are we coming from?

02 What are we seeing now?

03 What comes next?

Sustainability is the new Digital (I)

Deepdive: Regulation

We position ourselves to be **ready** when embodied carbon regulation hits on all levels, timing couldn't be better

- Company Level**
 - CSRD requiring reporting
 - ETS certificates (for the cement industry) expanding industries
- Material Level**
 - Construction Product Regulation (CPR): Mandatory Product LCA for CE-certification
- Building Level**
 - EBPD: Whole-lifecycle carbon caps for new public buildings in 2026, all other ones in 2028
 - QNG & GEG including embodied carbon in the future
 - Emission caps in Denmark, UK, Netherlands

Denmark: "...regulation enters into force in 2023. The forthcoming changes in the building regulation require that whole life carbon is assessed in all new constructions, and that buildings larger than 1000 m² shall **fulfil a mandatory limit value** of 12 kg CO₂/m²/year"

— [Ramboll](#), 2022, p.22

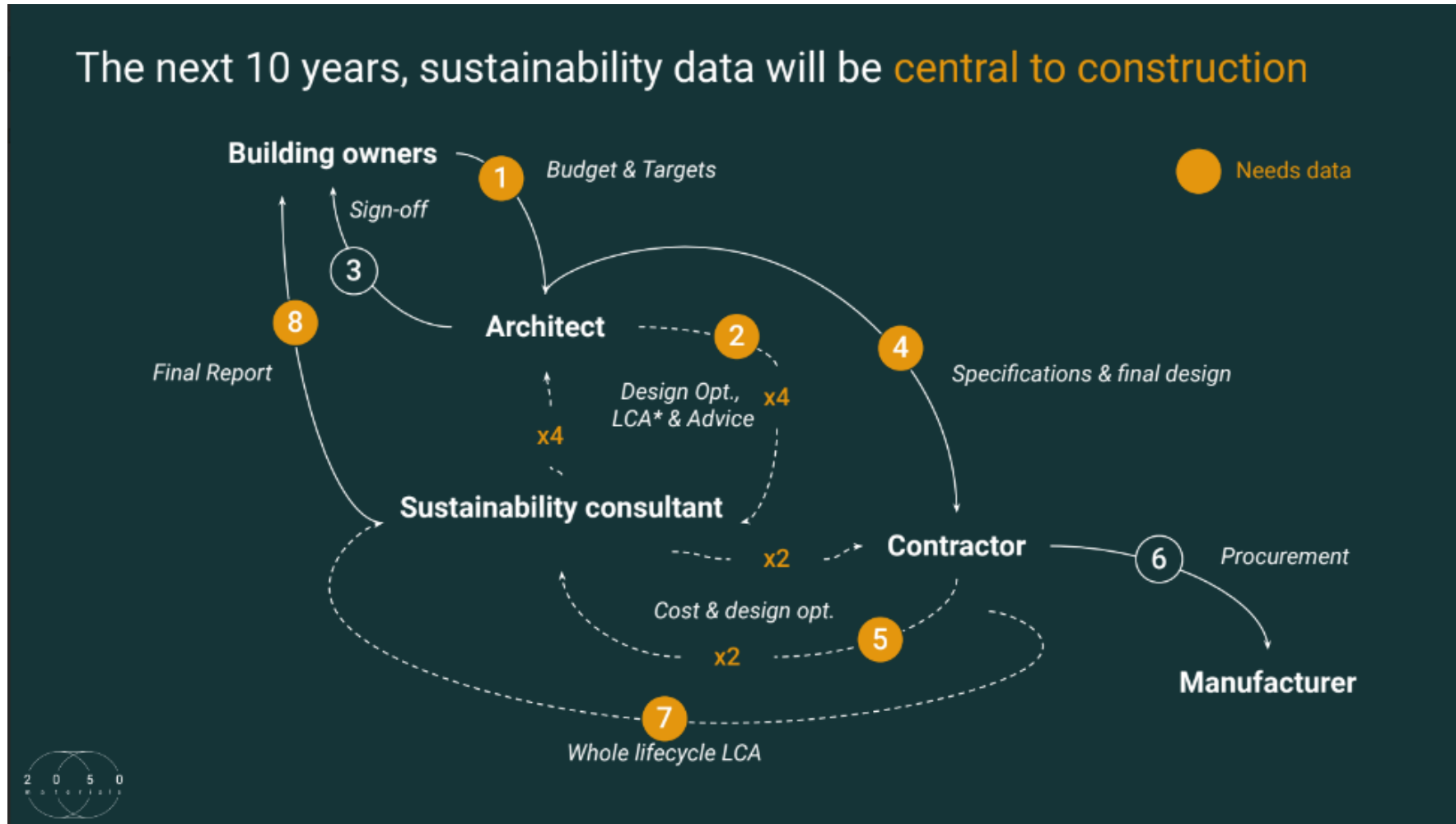
"By 2030, all new buildings, infrastructure and renovations will have **at least 40% less embodied carbon** with significant upfront carbon reduction, and all new buildings are net zero operational carbon."

— [World Green Building Council](#), 2019, p.5

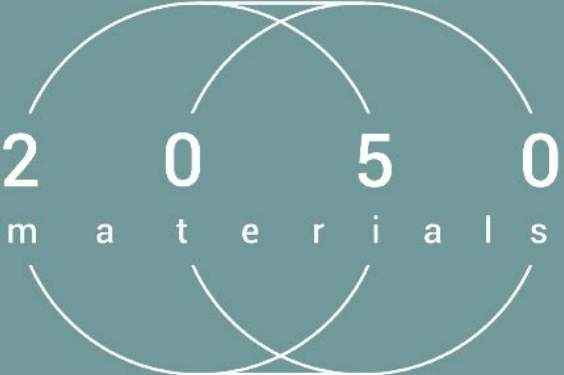
"By 2030, member states must establish requirements for **measuring life cycle emissions** in accordance with level(s) for new buildings, this shall apply to large new buildings already from 2027 (Art. 7(2))."

— [BPIE](#), 2022, p.23

Sustainability is the new Digital (II)


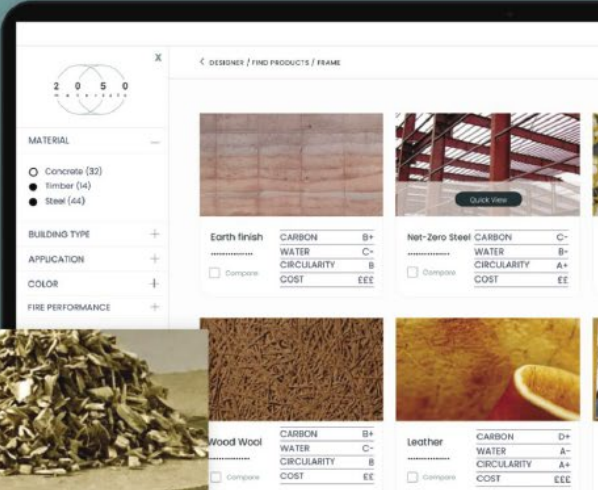


Sustainability is the new Digital (III)



Material library and platform for automated low-carbon building design.

- Team of ESG, construction experts and experienced CTO
- Currently in closed beta with >140 users
- >550 early-access subscribers



Material	Carbon	Water	Circularity	Cost
Earth finish	B+	C-	B	EE
Net-Zero Steel	C-	B-	A+	EE
Wood Wool	B+	C-	B	EE
Leather	D+	A-	A+	EE

Product X	0.7 kg CO2e
Company Y	1.2 liters water
	100% recycl. cont.
<input type="checkbox"/> Compare	00 km (d)

2050 Materials Reading

Sustainability is the new Digital (IV)

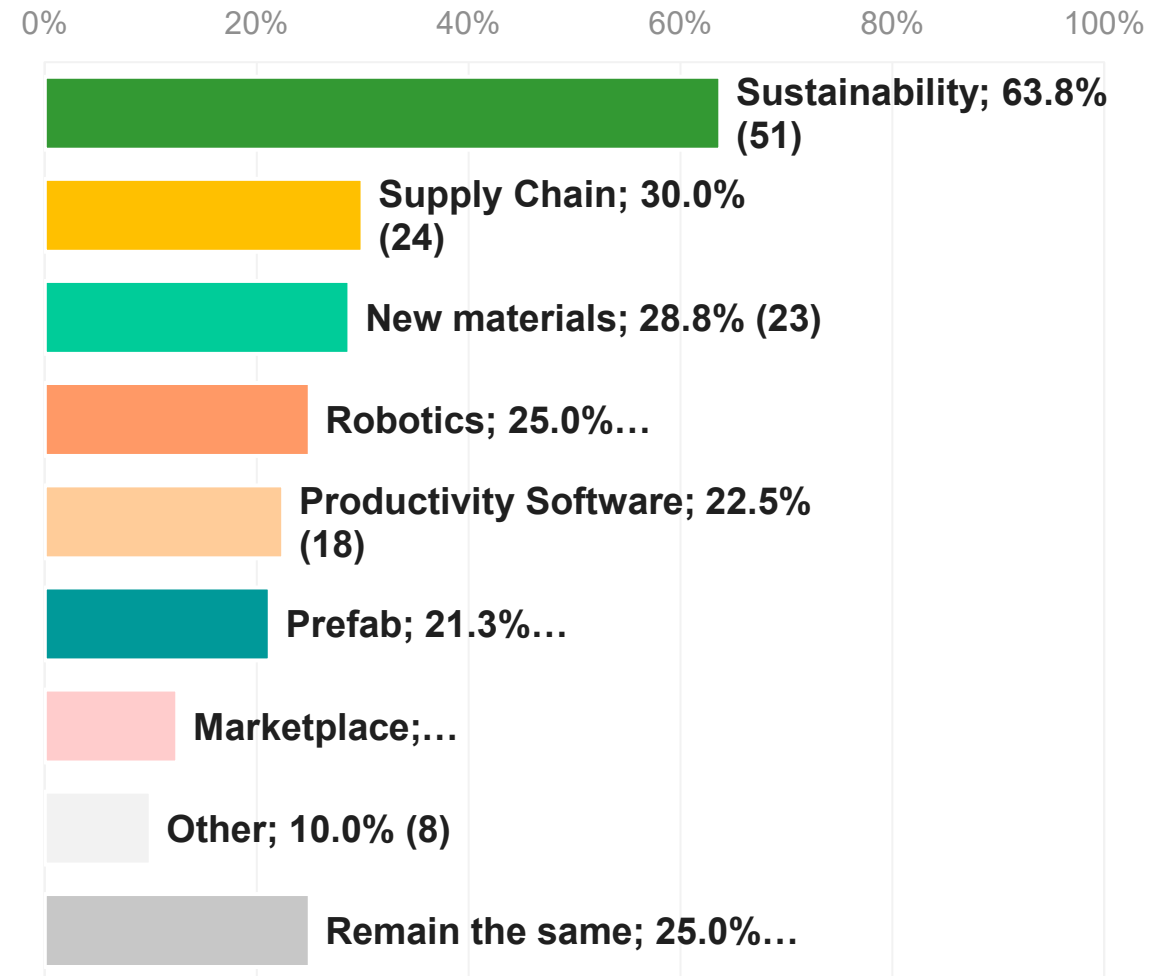


Green Construction is top-of-mind

ConTech investors
point of view



Are there any Technologies that you would like to increase investments in 2023





Rethinking the way our industry works...

Polycare

3

We create building blocks out of secondary raw materials and develop the technology to manufacture & build in the smartest way



Material Circularity
Use of secondary raw materials from the linear Economy and recycling industry



Polycare as **Material Bank**
Materials and components become Assets to create recurring revenue

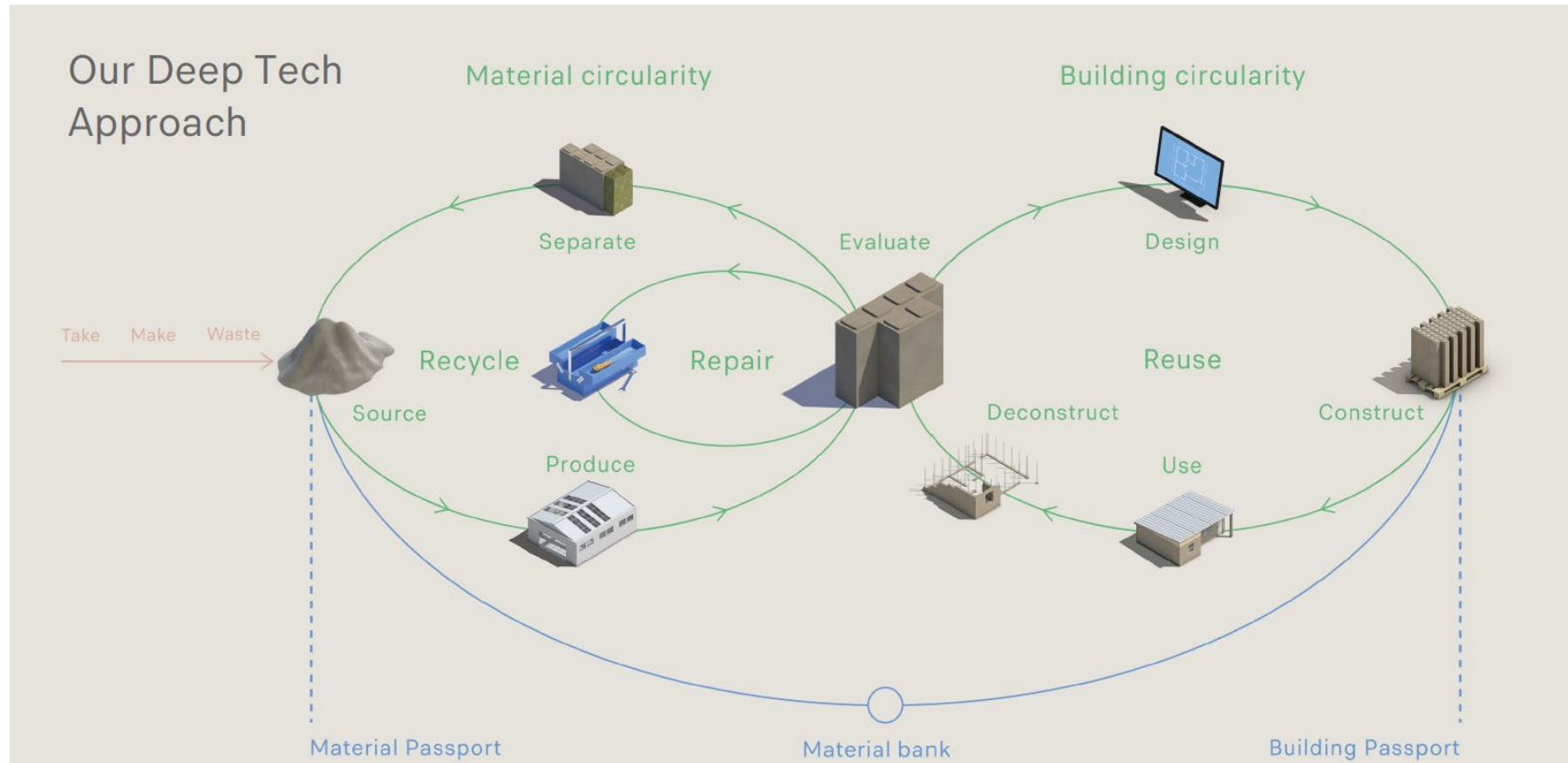


Building Circularity
Design for Disassembly to reuse the building (blocks) over time

...allowing new business models: Material Renting

Polycare

5



Getting the necessary funding to develop even the most unthinkable

Introducing the world's first carbon negative Portland cement

We're building a new foundation for the climate era. Cement is responsible for about the same amount of greenhouse gas emissions as all of the cars on the road today. Cement has been one of the most difficult materials to decarbonize, until now.

We have invented a way to make carbon negative Portland cement that is identical to conventional cement and lower in cost. Simply put, our process will turn one of the most intractable climate problems into a carbon negative climate solution.

[About Brimstone >](#)

May 2, 2022 | Dealflow

\$55 million rains down on Brimstone to decarbonize cement



ImpactAlpha Editor

Amy Cortese



ImpactAlpha, May 2 – At least 8% of global emissions are generated by concrete, a key building block in everything from buildings to bridges.

Oakland, Calif.-based Brimstone Energy was founded by two Caltech scientists to decarbonize Portland cement, a key ingredient in concrete. The company uses calcium

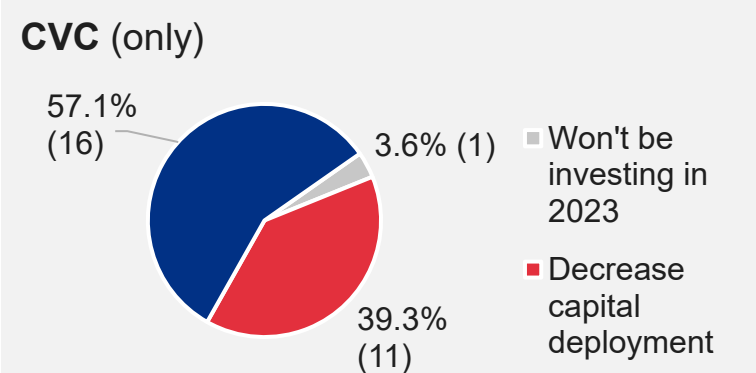
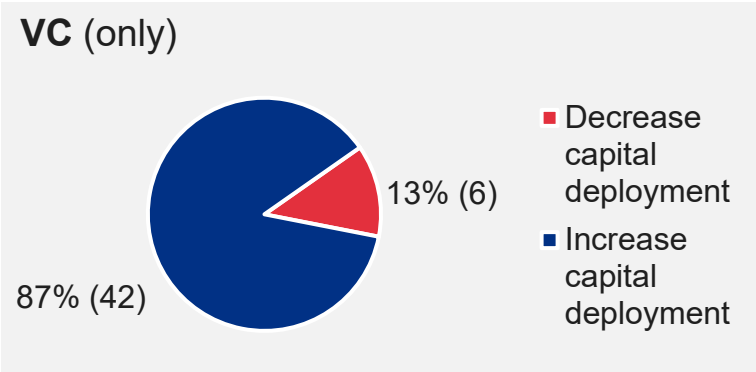
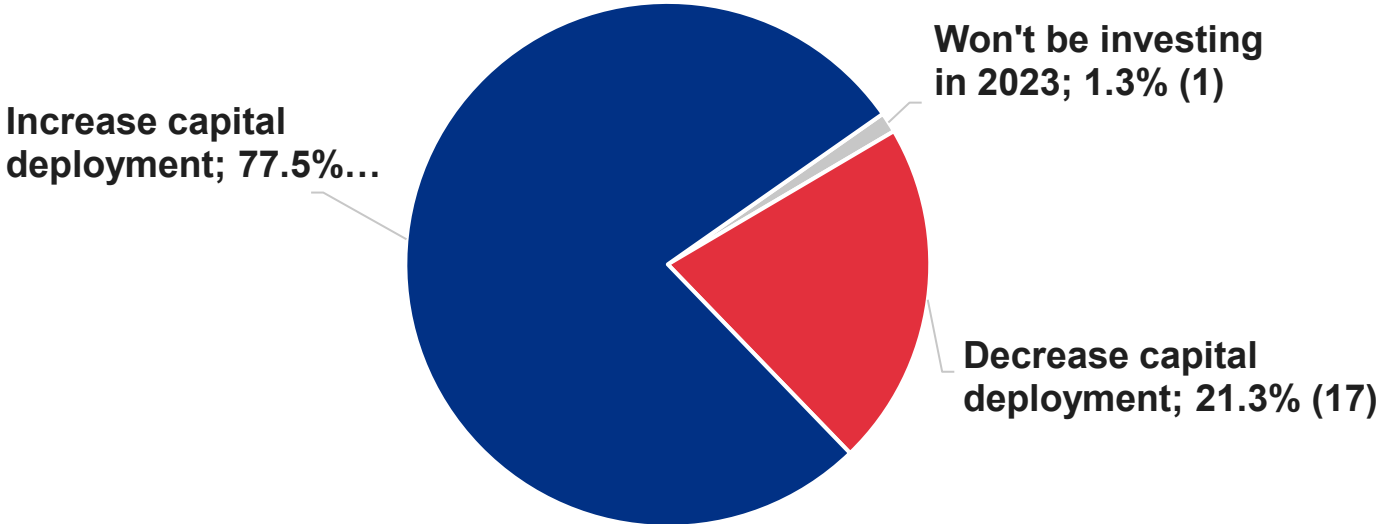


European Carbon-Neutral buildings at scale



The markets are uncertain, but investors are still bullish about this space

Expected Capital Deployment for 2023 vs 2022



More and more Corporations are joining the ConTech wave

Life Is On | **Schneider Electric** | Search products, documents & more | **IMPACT Company**

Products ▾ Solutions ▾ Services ▾ Support ▾ Investors ▾ About us ▾

About us > Newsroom > Details

Home | News & Press Releases | Media Library | Spokespeople | Events | Awards | Blogs | Contacts

SE Ventures announces €500 million Fund II to accelerate climate and industrial tech start-ups

Menlo Park, CA, USA | 17/11/2022

News | SE Ventures | Innovation

Download PDF

- SE Ventures grows to €1 billion establishing itself as one of the largest venture capital digitization and decarbonization building on highly successful Fund I track record

SE Ventures today announced a €500 million Fund II establishing the firm as one of the largest technology. Backed by Schneider Electric, the global leader in the digitalization of industrial and move builds upon a 2018 Fund I to bring SE Ventures to €1 billion of committed capital. Fund II doubling down on SE Ventures' track record of success as an accelerator for category-defining mobility, prop-tech and cybersecurity.



CRH plc
Stonemason's Way
Rathfarnham
Dublin 16
D16 K451
Ireland

T +353 (1) 404 1000
E IR@crh.com
W www.crh.com

16 December 2022

Press Release

CRH Establishes New Venture Capital Unit

CRH plc, the global leader in building materials solutions, announces CRH Ventures, its venture capital unit, which will support the development of new technologies and innovative solutions to meet the increasingly complex needs of customers and evolving trends in construction.

With access to a \$250 million venturing and innovation fund to invest, CRH Ventures will partner with construction and climate technology companies, operating across the construction value chain.

CRH Ventures will focus on cutting-edge technologies at the core of the construction industry's changing landscape, investing in companies that are: developing the next generation of advanced sustainable building products and accelerating the industry's path to decarbonisation; expanding automation and off-site construction methods to build more efficiently and safely; leveraging digital technologies to build smarter; and increasing market efficiency and optimisation to deliver better value for customers.

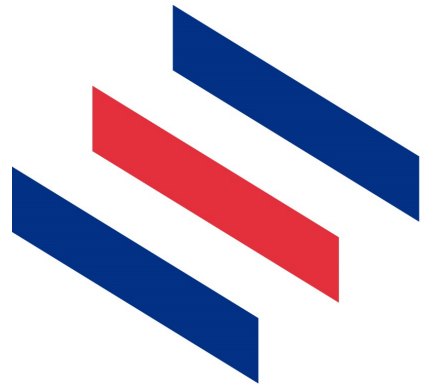
01
FEB
2022

VENTURE CAPITAL | Cataluña

Roca Group lanza un fondo de corporate venture de 25M€ para invertir en startups

Roca Group Ventures participará en proyectos early-stage que aporten soluciones innovadoras en diferentes áreas y sectores de la industria y del negocio del baño.

The future of Contech Industry by



Zacua Ventures



THE BUILDERS FUND




Agenda

- Introduction
 - Eva Unzué
- EMEA representatives in the 2022 Innovation Global Executive Review
 - Next Generation Alternative Fuels: Tomás Sánchez-Corral & Francisco Iniesta
 - Bio-Sourced Admixtures: Wolfgang Salmen
- Why is Innovation important for EMEA region?
 - Andrew Spencer
- The future of Contech industry
 - Juan Nieto (Zacua Ventures)
- Closing
 - Sergio Menéndez
- Q&A
 - All

EMEA Innovation Strategy

Area	Example	# Initiatives			Guidelines
				Total	
Cement	Green Hydrogen Hyper Injection (Alcanar)	5	17	22	
Materials	LabExperts - Jobsite waste testing service	16	41	57	
Urban Sol.	Bio-sourced Admixtures	8	60	68	
HR	CoachUp! - online mentoring program				
Supply Chain	Electric mixer trucks				
H&S	Ception - AI solution for heavy mobile machinery				
Other	Builders merchant - Quotation tool				
CX Ventures	Carbon Upcycling - waste glass activation	-	18	18	
Global	CO ₂ to Carbon Nanomaterials Production	477	377	854	
Total		542	549	1.091	<ul style="list-style-type: none"> • Bottom-up process • Led by each area • All teams involved • Disruptive & Continuous improvement ideas • Pain points mitigation • External start-ups involvement



Q&A



Thank you!



EMEA Innovation Day

Webinar

May 31st, 2023