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Blockchain x Energy
State of the Market

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Making sense of and uncovering opportunities from innovation in energy, mobility, industry and more

Inputs

Secondary Information

Public Data
Public news, reports, data
Global web crawling

Primary Information

Start-up interviews
Business model
Traction
Partnerships

Proprietary Information
Ecosystem interviews
Boards and roundtables
CTG events insights

Resources

Proprietary database

i3
27k+ companies
20k+ rounds
21k partnerships
4k M&A events

+

Experienced Analysts

Market Intelligence

- **Innovation:** business model and/or technology – creating or capturing new sources of value

- **Opportunities and disruption:** from business activities all the way up to and across whole industrial sectors

- **Companies:** what are innovative companies doing? how do they make money? how do they compete and differentiate themselves?

- **Where to watch:** for new sources of innovation

- **Who:** is funding, investing, partnering to grow and commercialize innovative companies

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One year on: record-breaking growth

Only 18 months ago…

Processing transactions

Executing smart contracts

Recording transactions and ownership data

P2P & automated energy trading

CO-TRICITY

TRANSACTIVEGRID

LO3 ENERGY

theSunExchange

ELECTRON

POWER LEDGER

M-PAYG

SCANERGY

Logistics and supply chain

TECHNOLOGY TRANSPARENCY TRUST PROVENANCE.ORG

WAVE

skuchain

CHRONICLED

Blockfreight.

Gem

FACTOM

RSK

BIGCHAIN DB

EV charging & mobility

Slock.it

IoT and M2M comm's

FILAMENT

Ledger

Land registry

ChromaWay

arc-net

Coins & certificates

xpansiv

Volt Markets

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We now track 160+ companies and $1.3b+ of funding

Core Energy (71)

Logistics (34)

Agriculture & Food (10)

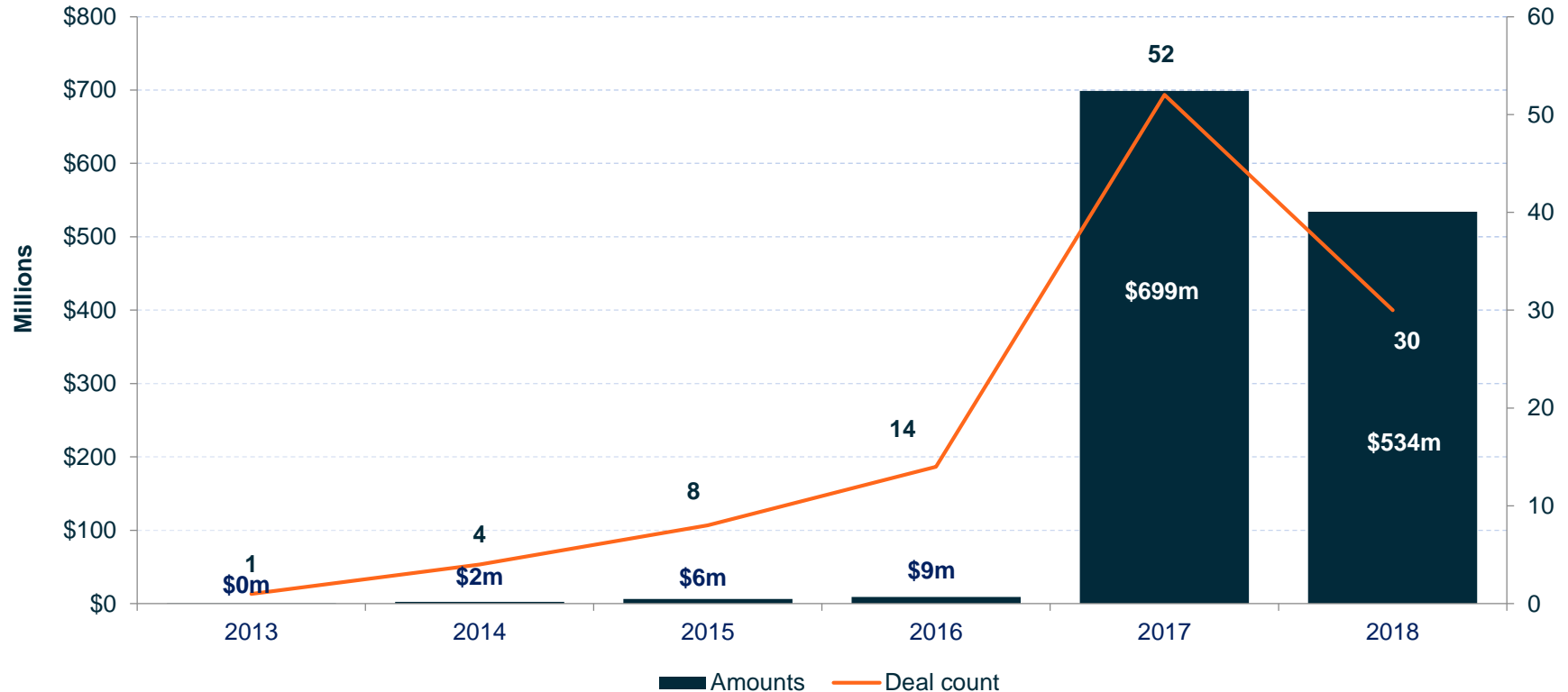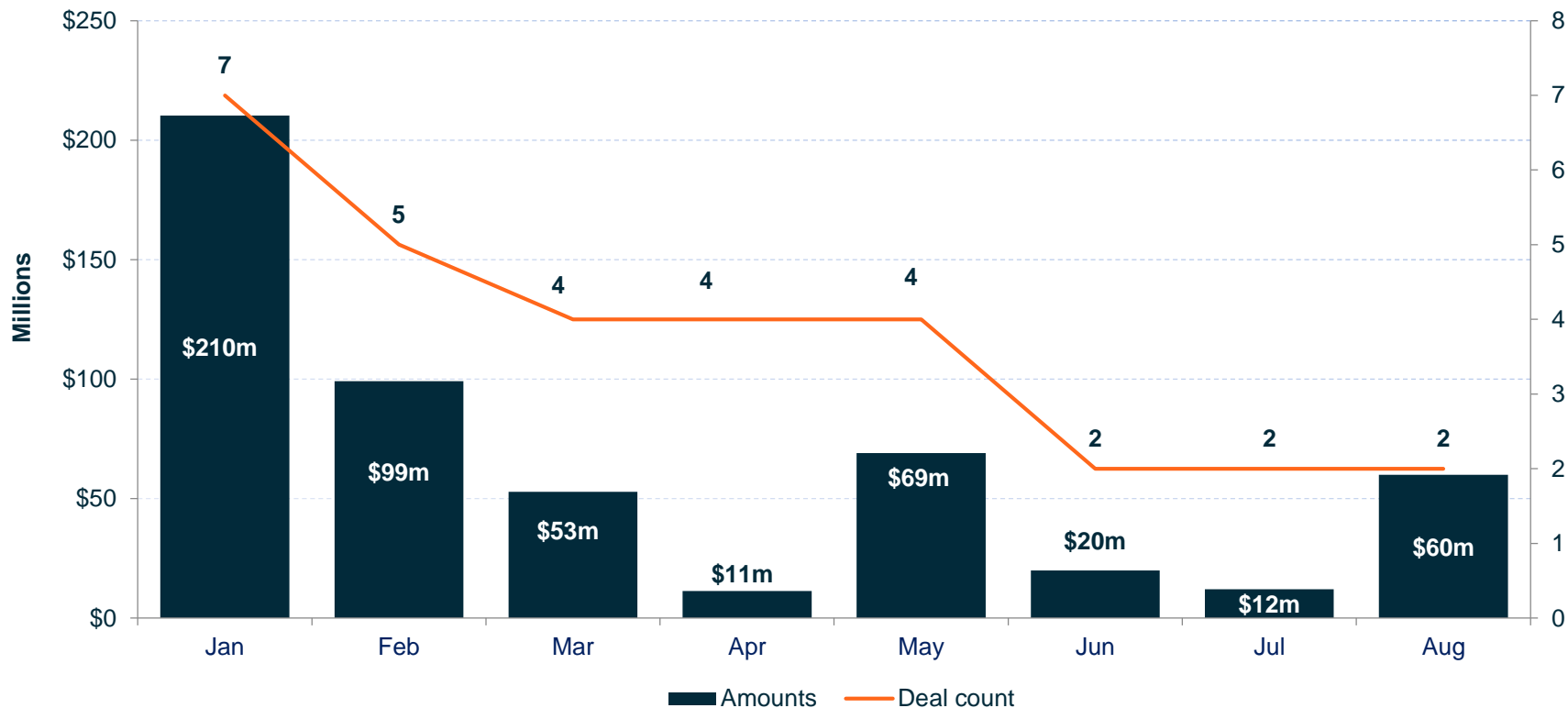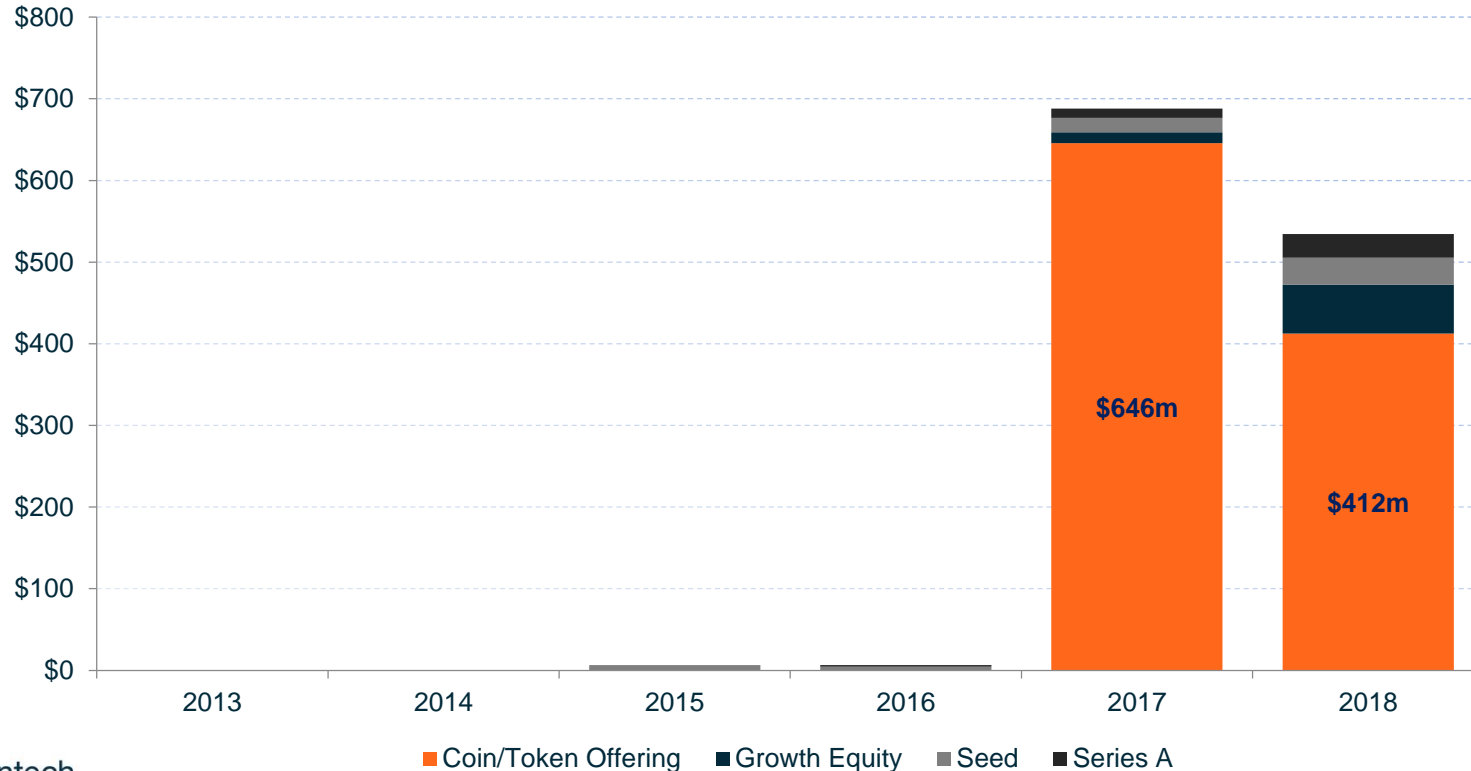**Mobility (19)**

IoT (24)

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Deal-making peaked in Q1 2018

Investment has sky-rocketed in the last 18 months

But the 2018 number is hiding a recent slowdown

Chart showing monthly amounts (bars) and deal count (line) from January to August. Bars labeled: Jan $210m, Feb $99m, Mar $53m, Apr $11m, May $69m, Jun $20m, Jul $12m, Aug $60m. Deal count line labeled: Jan 7, Feb 5, Mar 4, Apr 4, May 4, Jun 2, Jul 2, Aug 2. Left axis "Millions" from $0 to $250. Legend: Amounts, Deal count.

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Propelled by a new type of financing

Venture rounds are more numerous than ICOs

Deal count

	2013	2014	2015	2016	2017	2018
Series A				2	4	6
Seed	1		6	7	18	10
Growth Equity				2	2	2
Coin/Token Offering		1	1		21	12

Coin/Token Offering   Growth Equity   Seed   Series A

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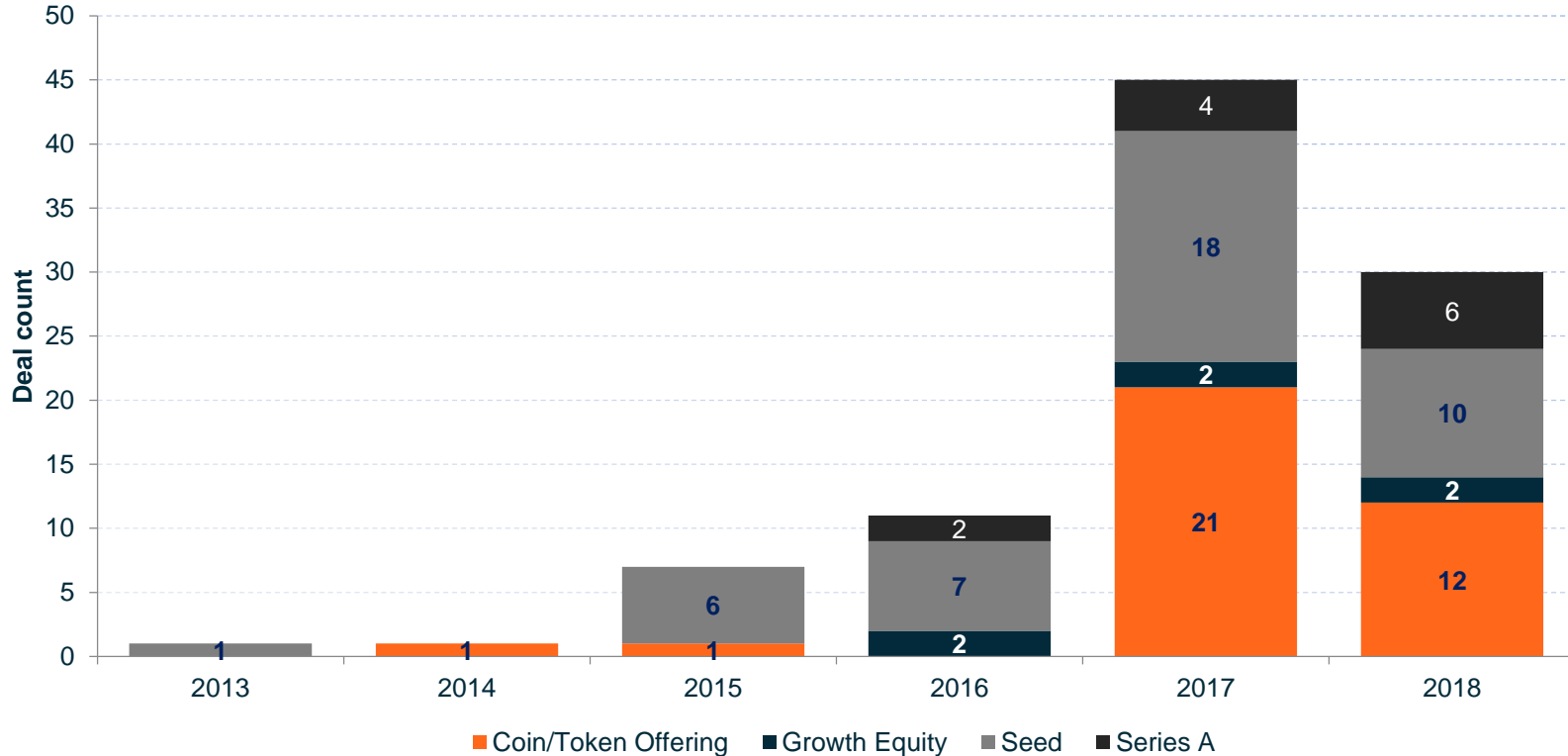
Usual suspects are only part of the picture

Traditional Corps/VCs

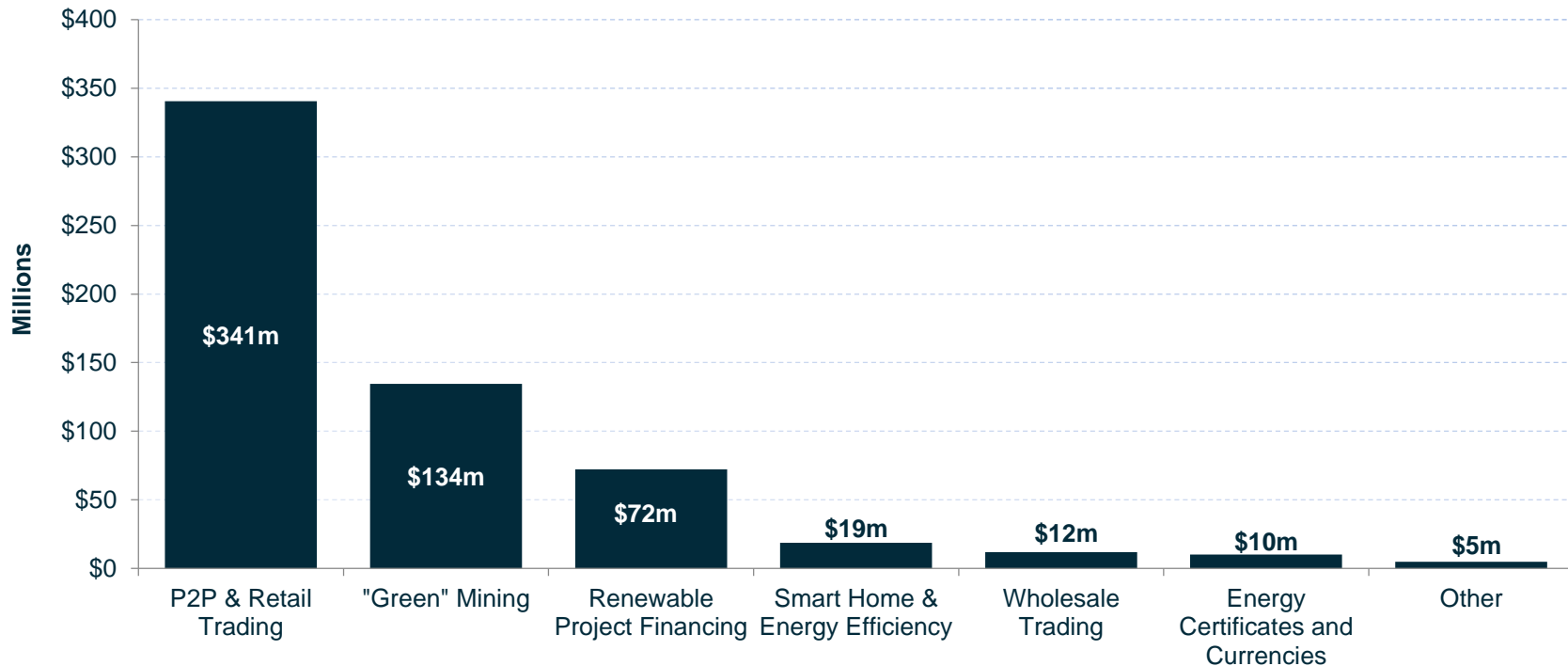## Crypto-investors: the emerged part

18 months ago…

$113m funding

22 companies

$17.8m funding

15 companies
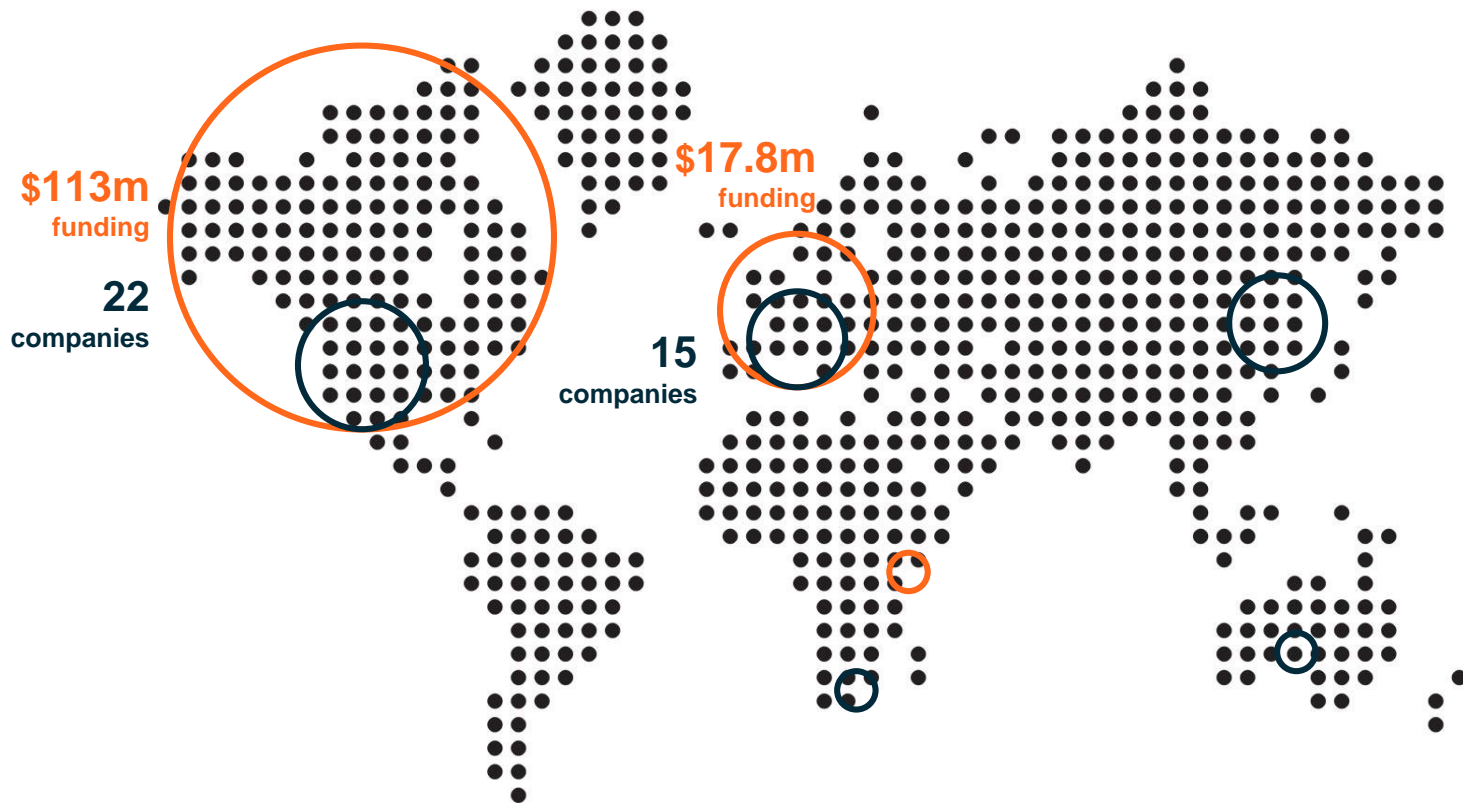
Europe now leading by a lot

$723m funding

$140m funding

$251m funding

70 companies

38 companies

23 companies

$1.6m funding

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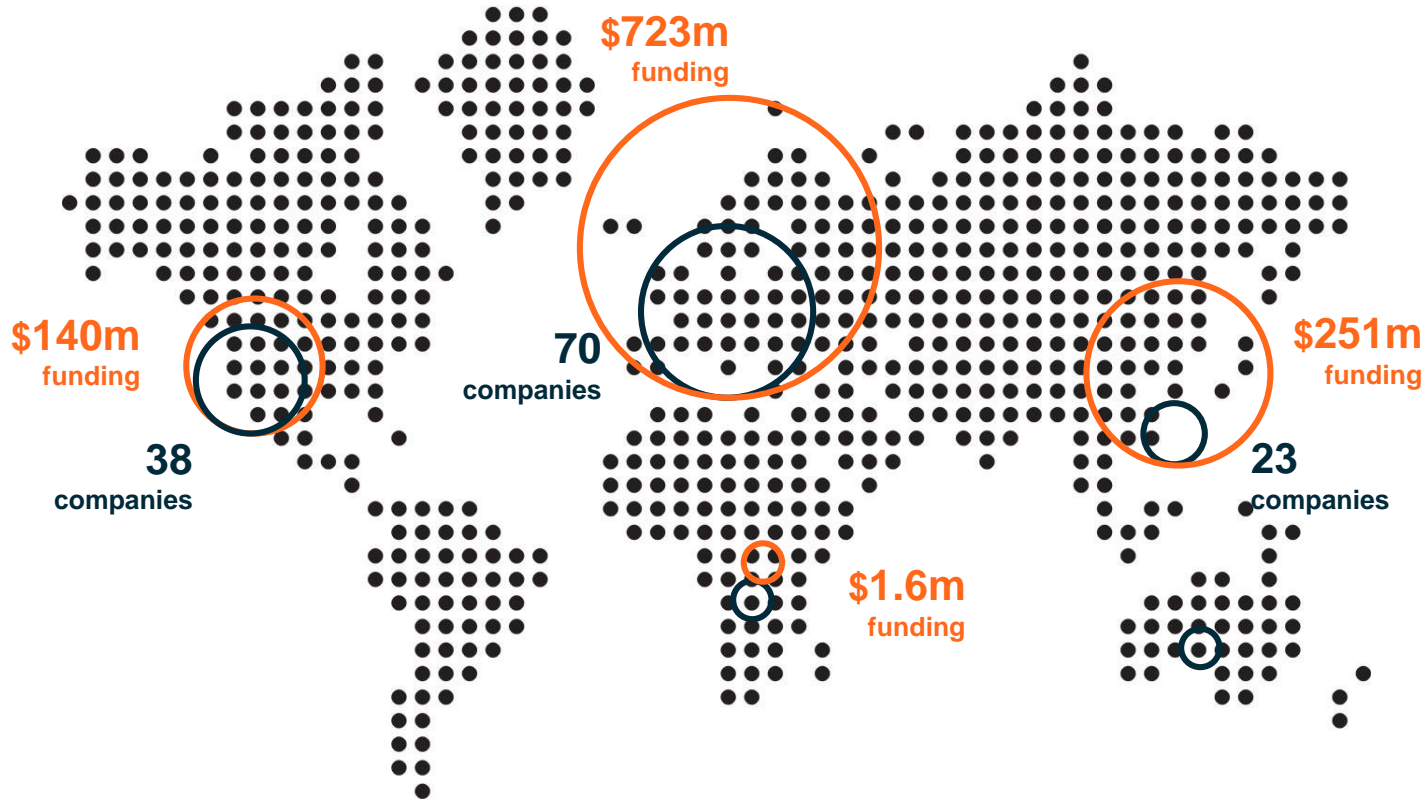
Core energy use cases leading the charge
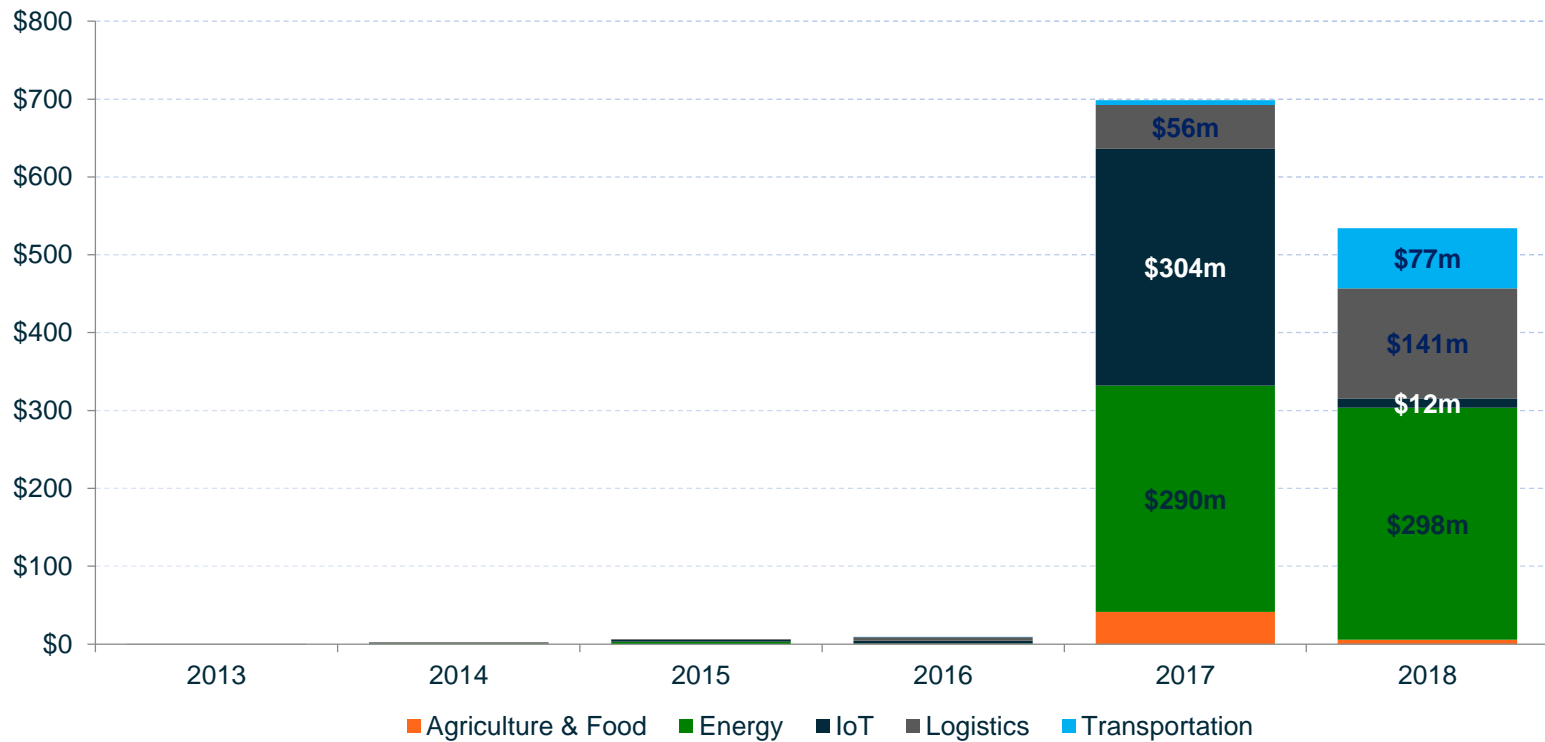
P2P & Retail leading energy investment

Millions

$400	
$350	
$300	
$250	
$200	
$150	
$100	
$50	
$0	

- P2P & Retail Trading — **$341m**
- "Green" Mining — **$134m**
- Renewable Project Financing — **$72m**
- Smart Home & Energy Efficiency — **$19m**
- Wholesale Trading — **$12m**
- Energy Certificates and Currencies — **$10m**
- Other — **$5m**

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With all this funding,
is blockchain in energy scaling up?

Some of the organizations we talked to

We asked about scale-up efforts and challenges

What is the current scale of blockchain in energy projects?

How long will it take to get to commercial/production scale?

What aspects of scaling up are hardest?

- Technical, energy market integration
- Technical, blockchain side
- Commercial
- Regulatory
- Capital, VC
- Capital, token
- Talent / recruiting

1 = super easy

2 = easy

3 = medium

4 = hard

5 = mission impossible

What are top technical challenges?

What are top commercial challenges?

How fast is the blockchain community solving challenges, compared to other techs?

Has your view on blockchain scalability changed in the past year?

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What we learned

Disconnect between funding and commercial maturity

- Most use cases are currently trying to go from PoC to pilot

- Use cases around wholesale trading and digitization of energy data are most commercial

- But P2P is receiving most funding and attention – ICO bias

Start-ups, corporates and investors all see different scale-up challenges

- Corporates are the most bullish, pushing companies to think about commerciality, making bets

- Start-ups are focused on technical challenges: scaling public blockchains, governance, energy markets

- Investors are less skeptical than 18 months ago, but still see commercial scale as 1-2 years away

Despite flurry of activity and headlines, progressing at a regular pace

- Most players see blockchain applications evolving at regular innovation pace

- Partnerships with big corporates are deemed the best lever to accelerate scale

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Looking ahead

2018-19 outlook

What to look for

1. The ICO market is rightly cooling down, may be bridged by a VC increase
2. The hype around blockchain is subsiding, putting pressure on innovators to demonstrate value creation
3. Early-movers maturing and bringing offerings to pre-commercial scale

What to test with companies

1. Go to market strategy and competitive advantage vs. existing solutions
2. Revenue and business model
3. Path to scale

For corporates & govs : impact on your current and/or future scope + value of experiment

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Join us in New York to dive into the topic

EXECUTIVE SUMMIT

Blockchain in Energy & Mobility

New York City | October 24, 2018

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Thank you.

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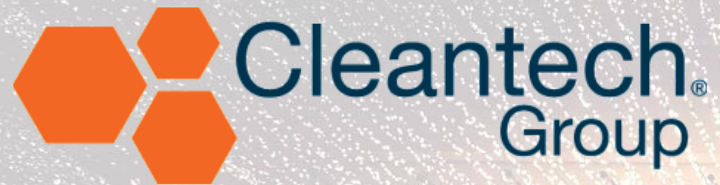
Appendix

The scale-up race is on

	Start-ups	**Corporates**	**Investors**
Most advanced use case	Energy data marketplace	Wholesale trading	Tokenization of assets
Current scale	Pilot	Proof of Concept	Proof of Concept
Time to commercial scale	Less than a year	Less than a year	1 to 2 years
Scale-up Challenge level	2.48	2.19	2.95
Challenge #1	Technical, blockchain side	Commercial	Regulatory
Challenge #2	Regulatory	Technical, energy side	Technical, blockchain side
Challenge #3	Raising token capital	Technical, blockchain side	Commercial
What can help most?	Partnerships and tech talent	Commercial talent	Partnerships
Improvement pace		Faster, but not by much	Faster, but more complex Close to investment-ready

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Business models are not convincing enough yet

"Most businesses are bulls%!t or window-dressing. They **don't need blockchain** to work."
Utility exec

    "A shake-out is coming. Hardcore guys will stick around, night flyers will disappear, then **blockchain 2.0 will emerge**."
Utility exec

"No one has a business model today. If they have it, it's **not new**."
VC investor

    "Lots of investing. **Not much to show for the talk**."
Utility exec

"Our level of investment is **justified by the progress** made in the last 12 months."
CVC investor

    "In a complex environment, you make multiple bets. They're sensors, **feed data**. We're learning as we go."
Utility exec

"We are close to max hype in the first cycle, and it won't last long. But the rise of **DR is unstoppable**, and a distributed ledger is a perfect match for it."
Utility exec

    "This consortium process has been very positive – we're **moving faster than we thought**."
CVC investor

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Making the solution work vs. selling it

"Putting an energy app on a private blockchain is easy. Scaling it on a **public blockchain** is mission impossible –we're working on it."
Start-up co-founder

"There is a big difference between using private and public blockchains. Not that many people are **talented enough** to build true decentralized systems."
Start-up co-founder

"Some people are focusing on selling partially ready solutions. We're **heads-down on the tech**."
Start-up co-founder

"The hardest part is to **scale governance**, and to configure privacy"
Start-up co-founder

"There is a big chasm between **press enthusiasm** and interest from utilities, especially in the US."
Start-up co-founder

"We're tackling segment of markets that **need it most**: islands, microgrids, munis and coops"
Start-up co-founder

"We need to get large **energy players** much more comfortable with **supplying data**."
Start-up founder

"Raising **token** capital is **getting harder** and harder, when you try to do it by the books."
Start-up

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