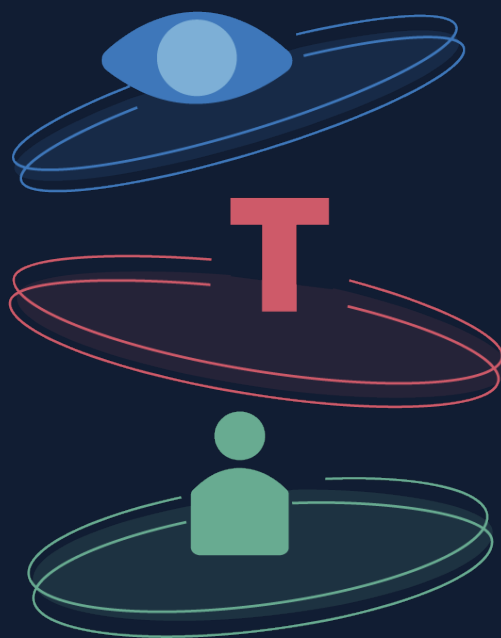


MAPPING THE SUSTAINABLE BLOCKCHAIN ECOSYSTEM

*Analysis of visual and textual
self-representation of sustainable
blockchains*



Mapping the sustainable blockchain ecosystem.

Analysis of visual and textual self-representation of sustainable blockchains.

AUTHORS

Alzhanova Anel
Astaghforellahi Soraya
Coelho Camila
Foresti Beatrice
Luan Yaqing
Saad Nelly
Schwailghofer Severin

FACULTY

Michele Mauri
Ángeles Briones
Gabriele Colombo
Simone Vantini
Salvatore Zingale

TEACHING ASSISTANTS

Elena Aversa
Andrea Benedetti
Tommaso Elli
Beatrice Gobbo
Anna Riboldi



What is a **blockchain**?

A system of recording information in a way that makes it difficult or impossible to change, hack, or cheat the system.

Euromoney

The carbon footprint of blockchains is a subject of recent debate in the tech world. Given its growth, the ecological damage due to NFT transactions has been on the rise, triggering the growth of eco-friendly blockchains.

This report focuses on the method in which eco-friendly blockchains present sustainability through text and visuals while analyzing who is involved, how, and why they choose to be sustainable.

0

p. 6

**STARTING POINT:
LIST BUILDING**

1

p. 9

**WHAT VISUAL STRATEGIES DO
BLOCKCHAIN TECHNOLOGIES USE
TO PRESENT THEMSELVES AS
SUSTAINABLE?**

2

p. 17

**WHAT TEXTUAL STRATEGIES DO
BLOCKCHAINS USE TO PRESENT
THEMSELVES AS SUSTAINABLE?**

3

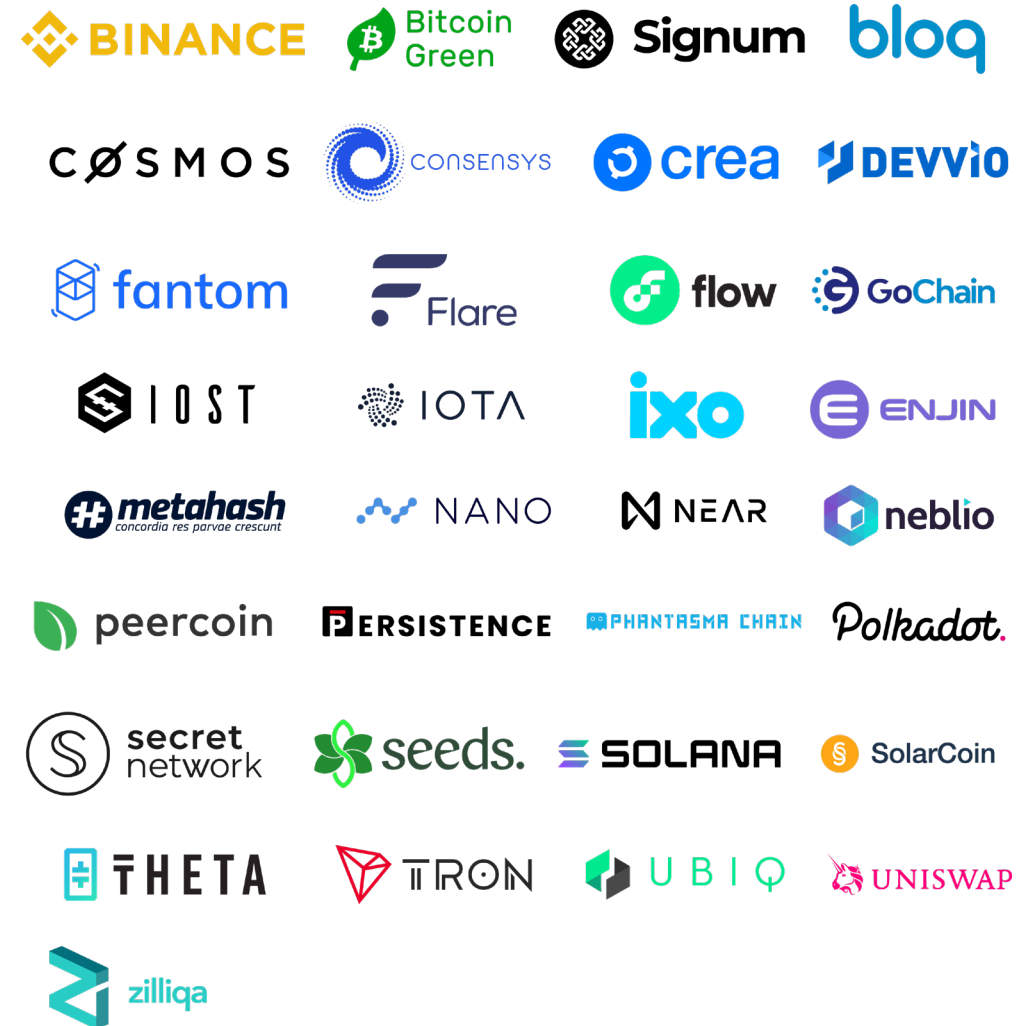
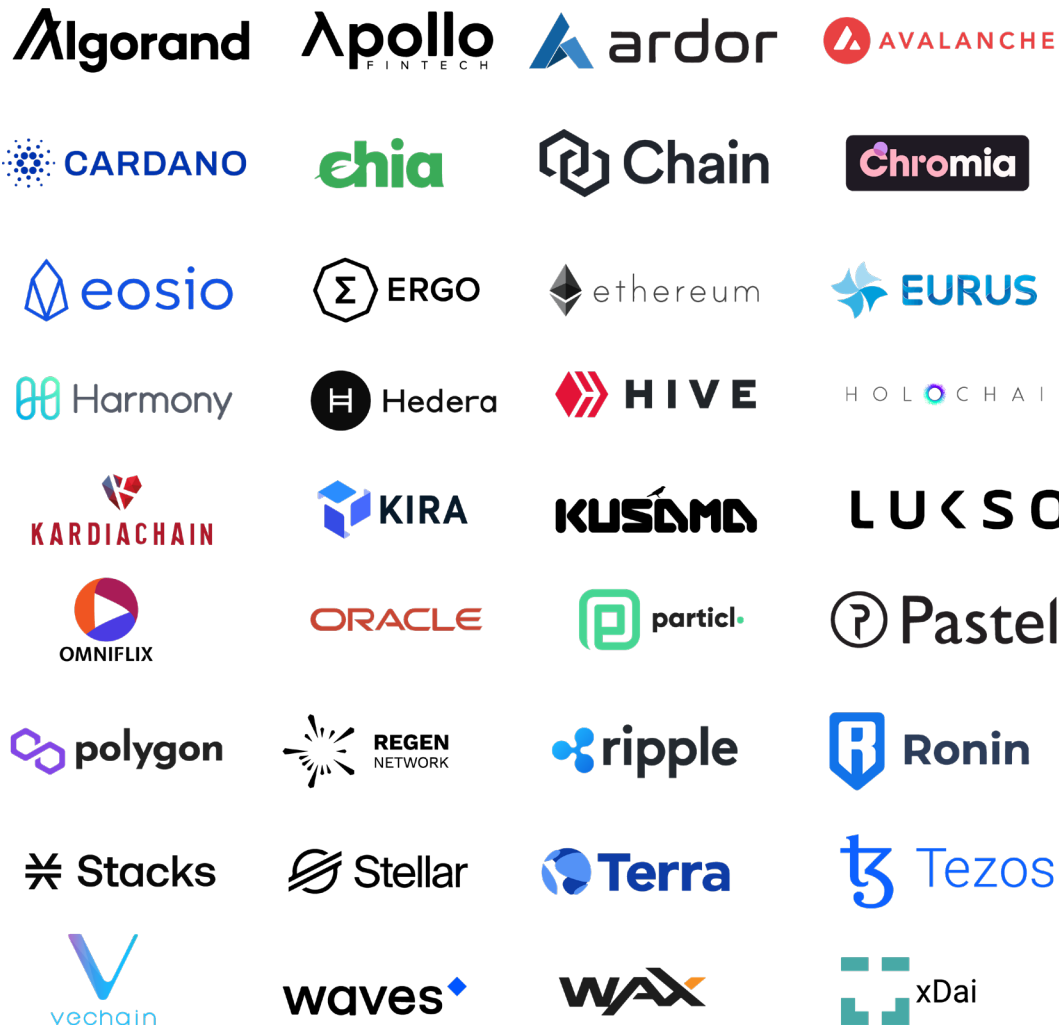
p. 25

WHO IS BEHIND THE BLOCKCHAINS?



STARTING POINT: LIST BUILDING

The goal is to have a list* as big as possible of sustainable blockchain technologies websites.

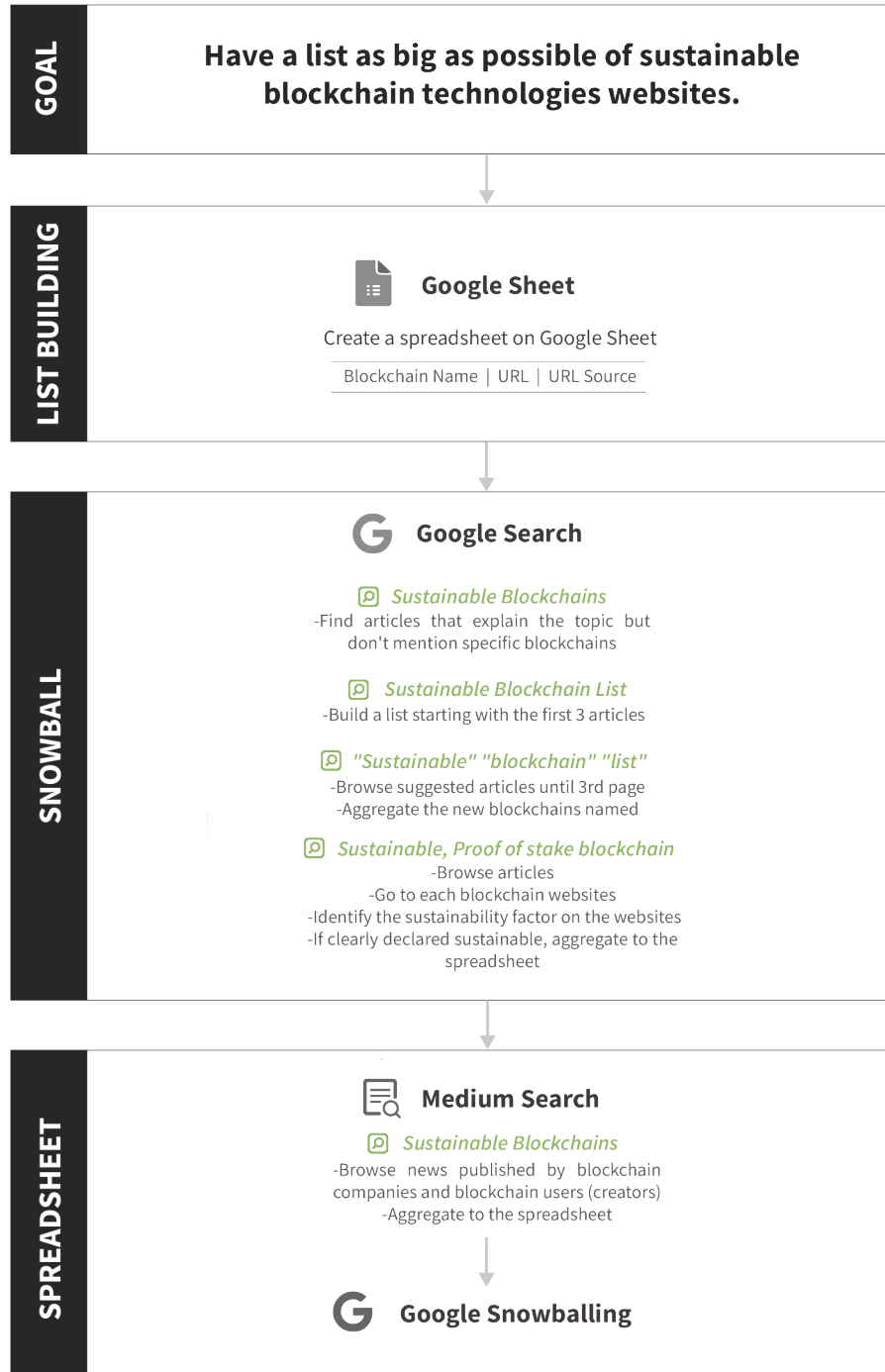


*list compared with "expert lists"
Clean-NFTs Developer Community and The State
of NFT Environmental Impact Reduction: Excel
Report



EXPLORE THE DATASET

PROTOCOL 0



1

WHAT VISUAL STRATEGIES DO BLOCKCHAIN TECHNOLOGIES USE TO PRESENT THEMSELVES AS SUSTAINABLE?

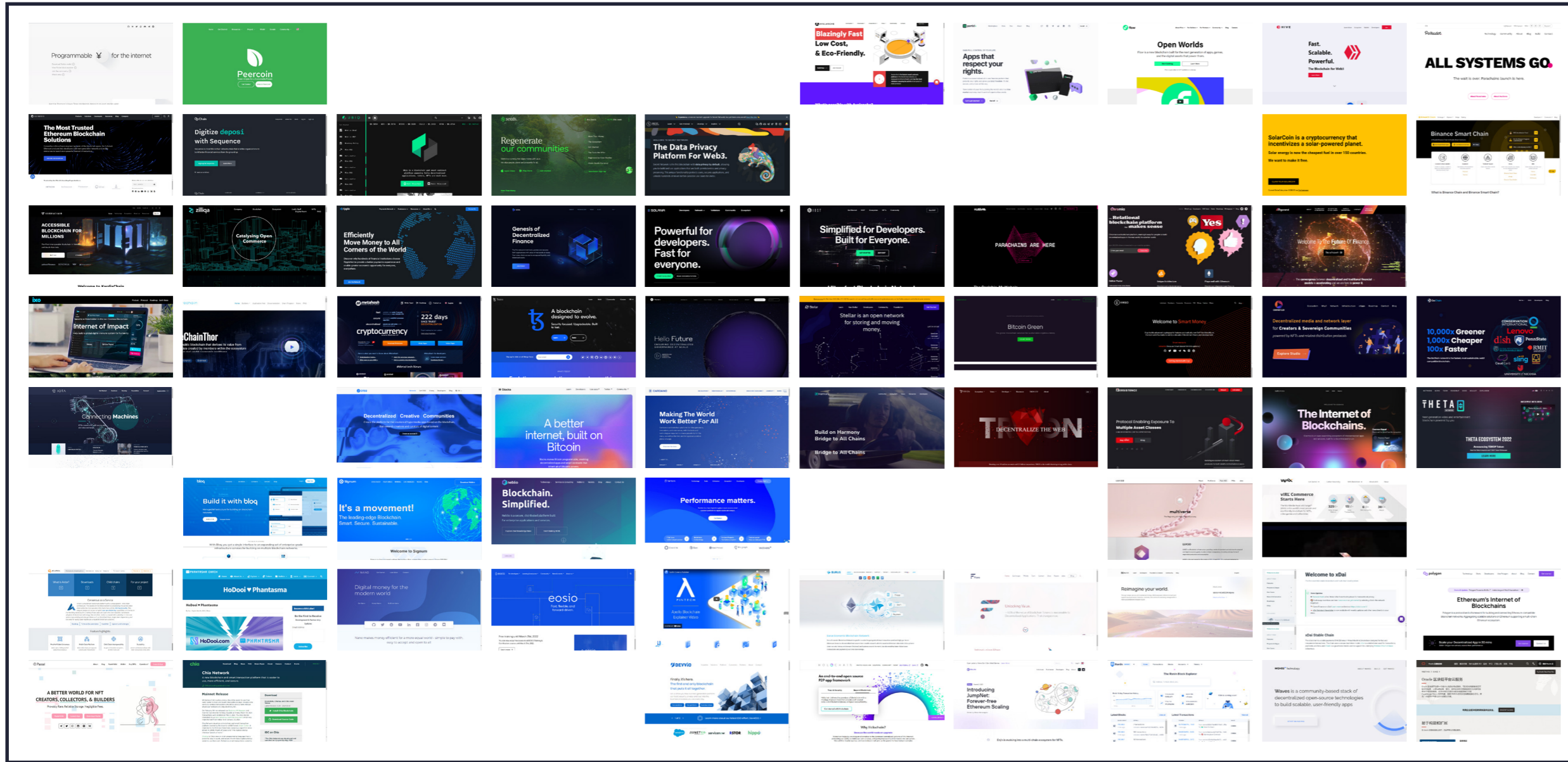
Findings from the first protocol determine whether blockchains present themselves as sustainable with their choice of colors, visual elements, and logos.



EXPLORE THE DATASET

COLOR PALETTE

BLOCKCHAIN LANDING PAGE SCREENSHOT SORTED BY HUE AND BRIGHTNESS

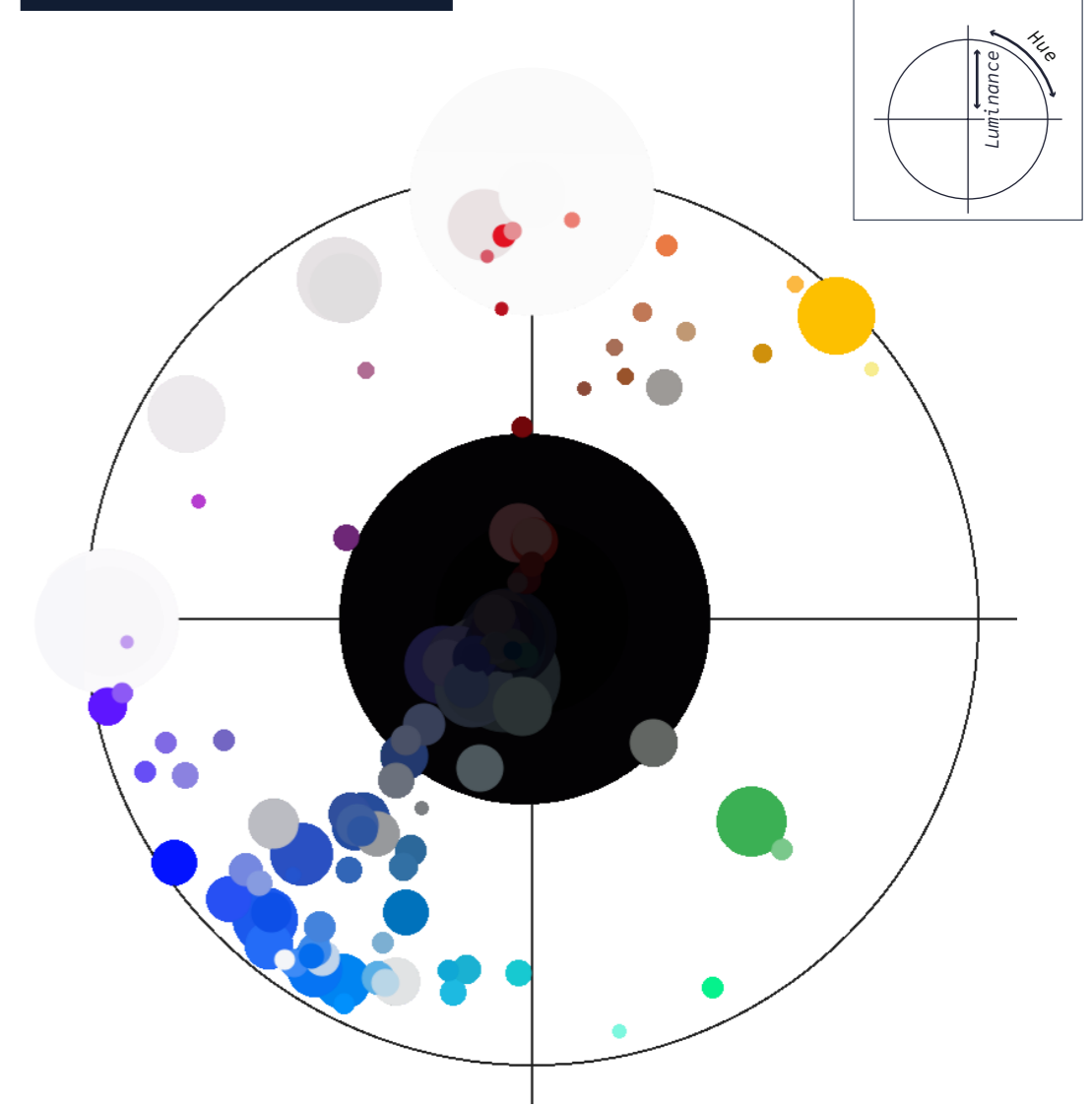


FINDING 1

The color palettes used by the blockchains consist **mostly of blue and black**. This relates more to the concept of **technology** than to the concept of sustainability, which usually uses green as an identifying color.

MAIN COLOR PROPORTIONS OF LANDING PAGE

How to read



VISUAL ELEMENTS

CATEGORIZED GRAPHIC ITEMS USED ON THE LANDING PAGE OF ALL BLOCKCHAINS

How to read

The size of the box is proportional to the number of items that it appears on the landing pages.

Sustainable related

Category

Elements



CULTURE

Arts and crafts

Gaming

Characters

Social

NFT

URBAN

TECHNOLOGY

Blocks

Network

Layers

AR

Security

System

Machine

Interface

GREEN

Planet Earth

Plant

Clean energy

Crop

Landscape

SDG

Animal

OTHERS

WORLD MAP

PEOPLE

SPACE

Universe

Rocket

Astronaut

ABSTRACT

Particles

Polyhedron

Vortex

Mesh

COMMERCE

Graphs

Coins

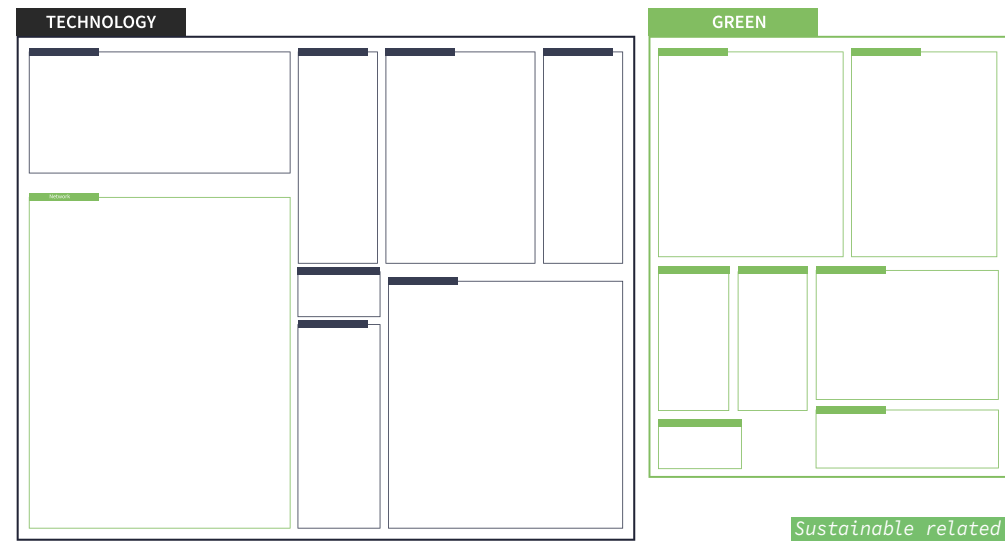
Shopping

Transport

VISUAL ELEMENTS

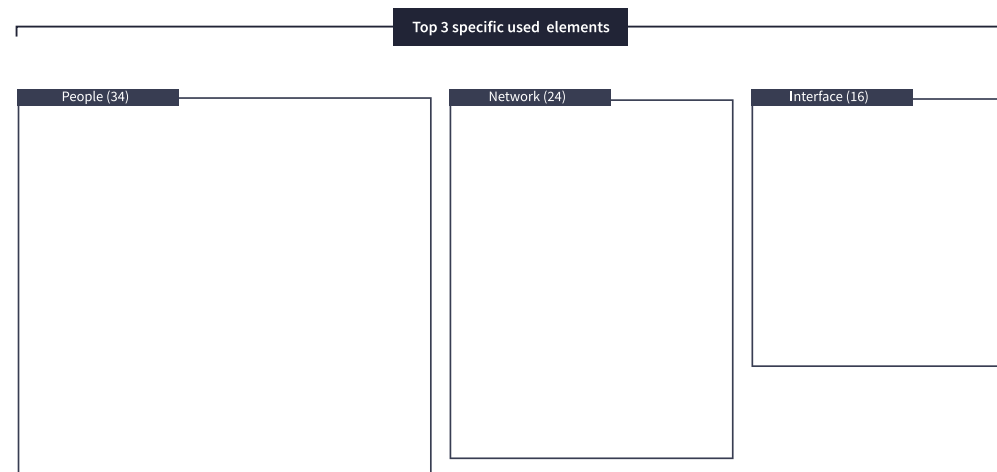
FINDING 2

Technological elements is predominant over “green-related elements. Sustainability is not straightforwardly communicated. However, the most used element inside the Technology category is the **Network**, which is one of the **key concepts of Sustainability**.



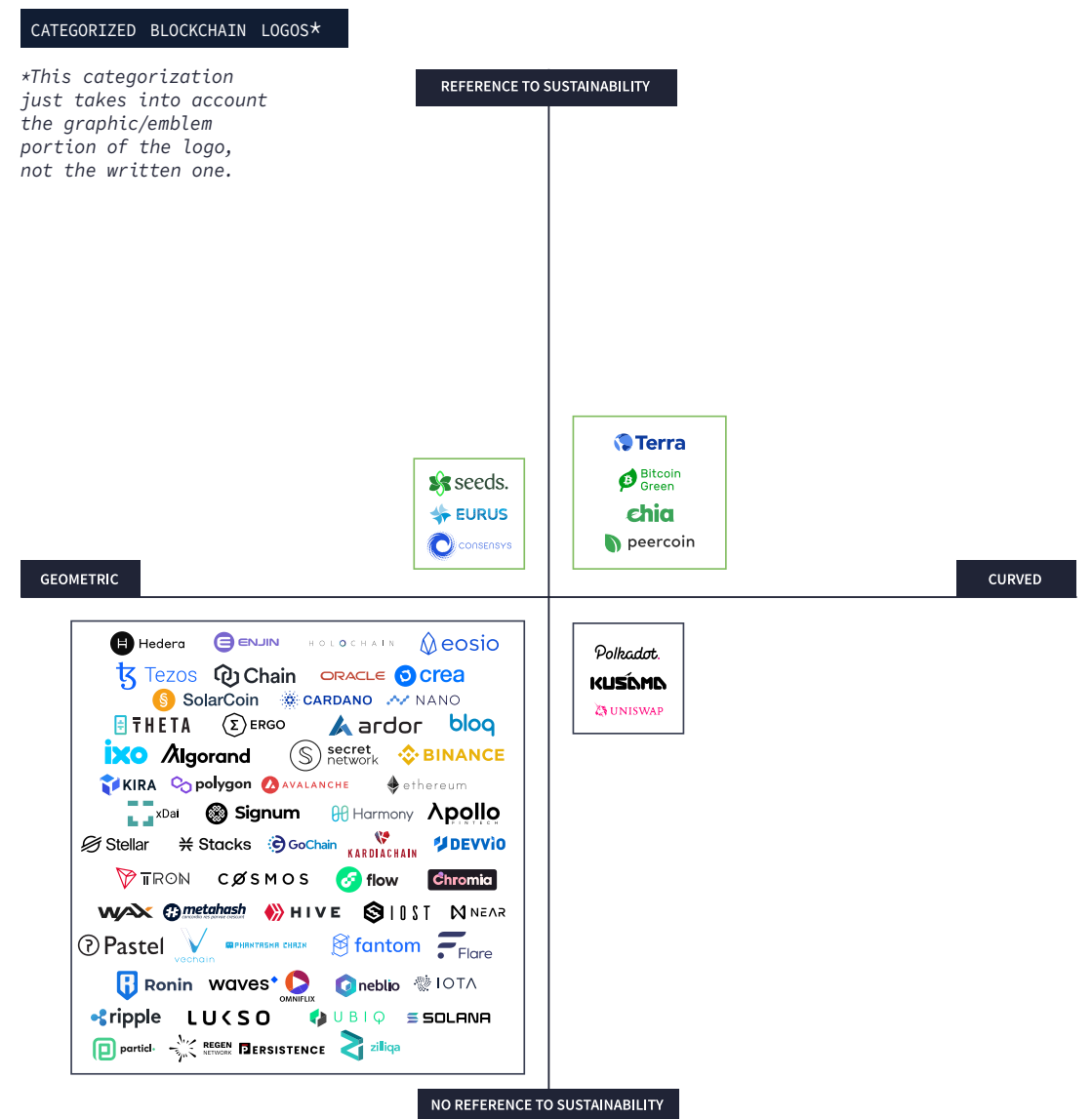
FINDING 3

The **specific element** that blockchains use the most to represent themselves is **People** over Network and Interface. **People** can be found in Illustrations, photos, and videos in most of the blockchain website.

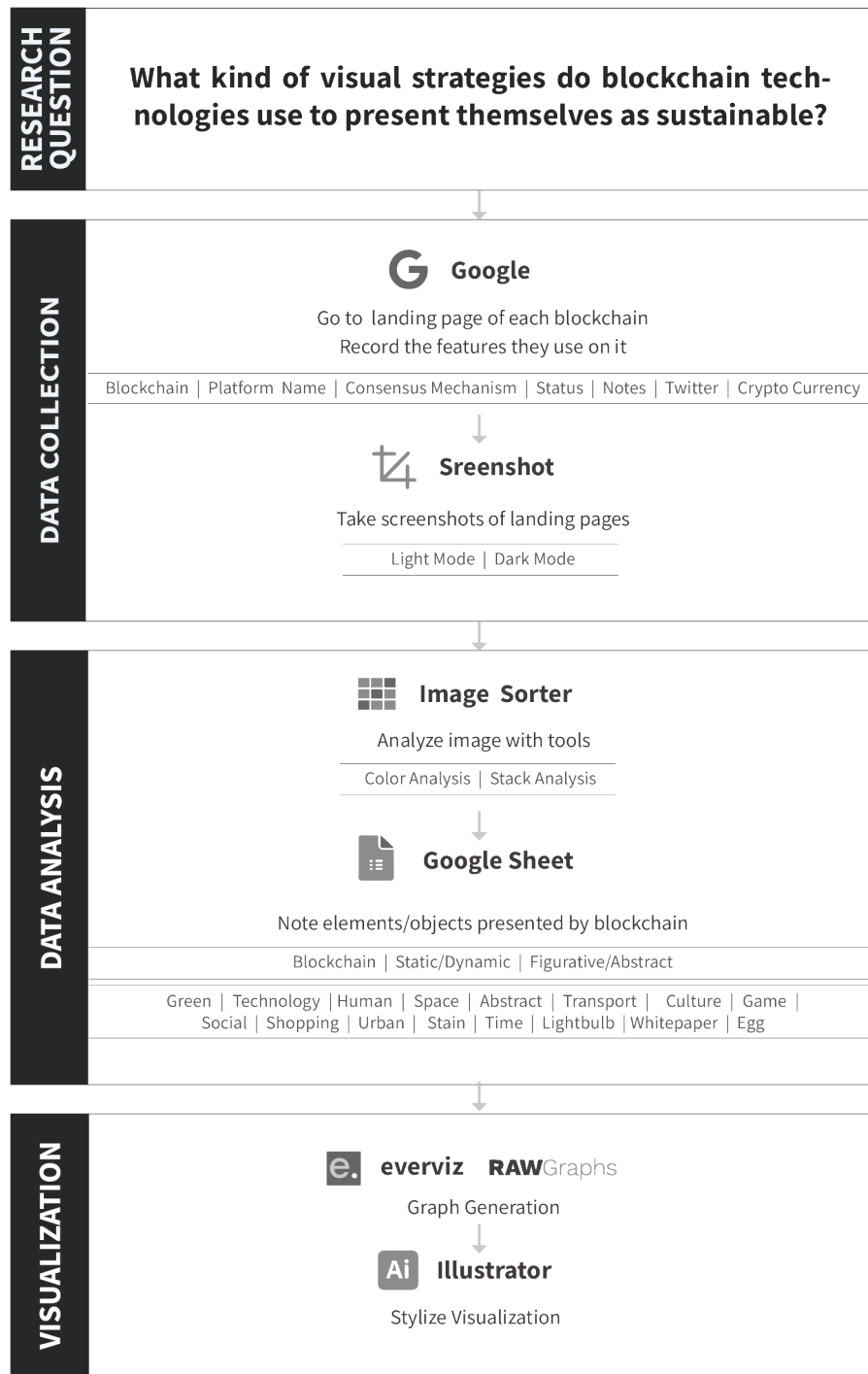


FINDING 4

Sustainable blockchains **don't highlight sustainability** as a factor, or as one of the main features of their logos.



PROTOCOL 1



2

WHAT TEXTUAL STRATEGIES DO BLOCKCHAIN TECHNOLOGIES USE TO PRESENT THEMSELVES SUSTAINABLE?

Findings from the second protocol determine whether blockchains present sustainability using text strategies. Text analysis was done manually and automatically to find keywords and concepts that appear “green”.



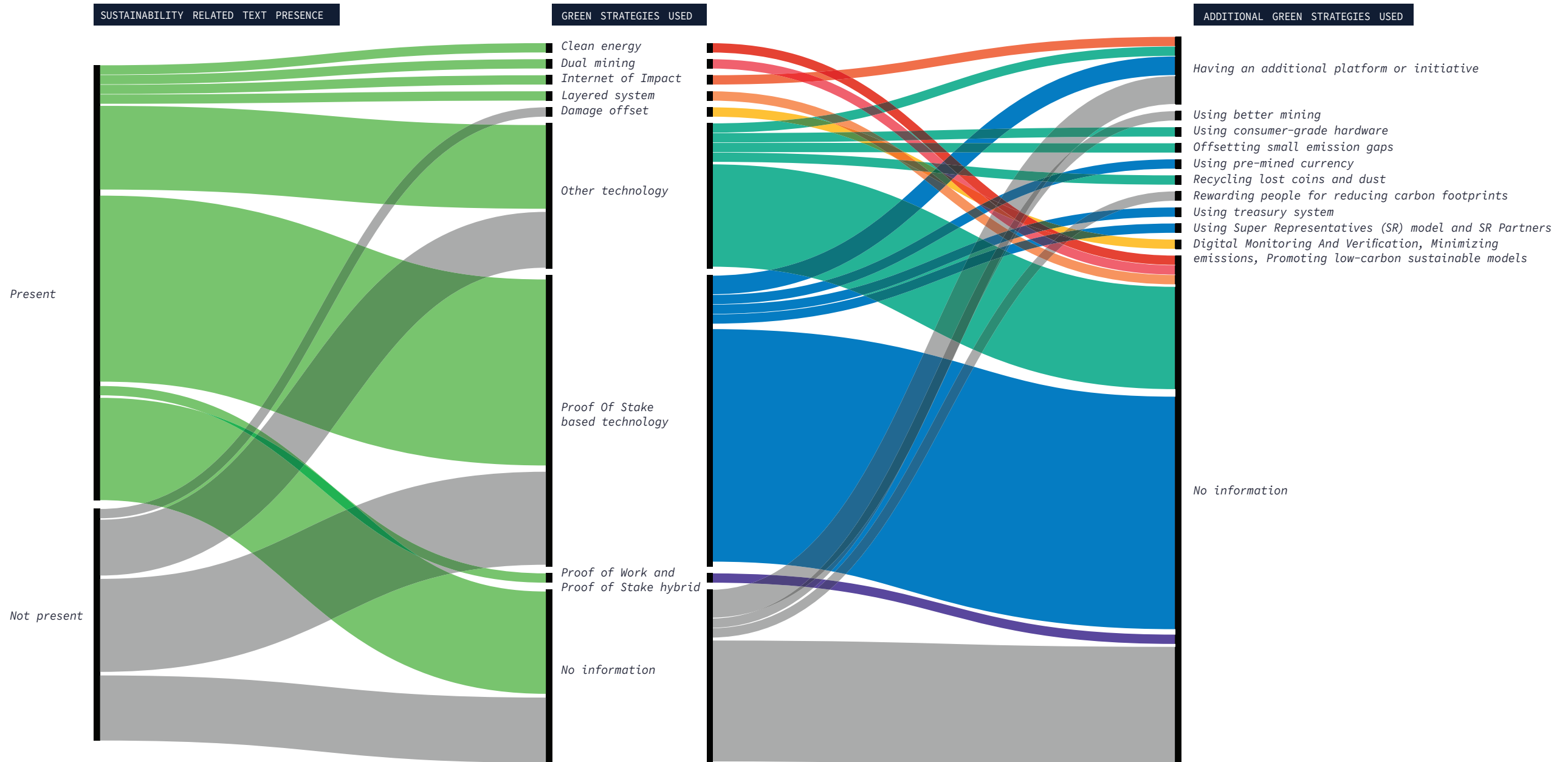
EXPLORE THE DATASET

SUSTAINABILITY RELATED TEXT

FINDING 1

Only 43 of 69 webpages contain information on sustainability on their website. 18 of them do not specify that they use any green strategy. The majority rely on a **more efficient technology** rather than offset, using clean energy or using a layered system.

A third of all the blockchains use additional green strategies. Some of them have their own additional platforms or initiatives. Some blockchains that do not have a major sustainable strategy still make small contributions.

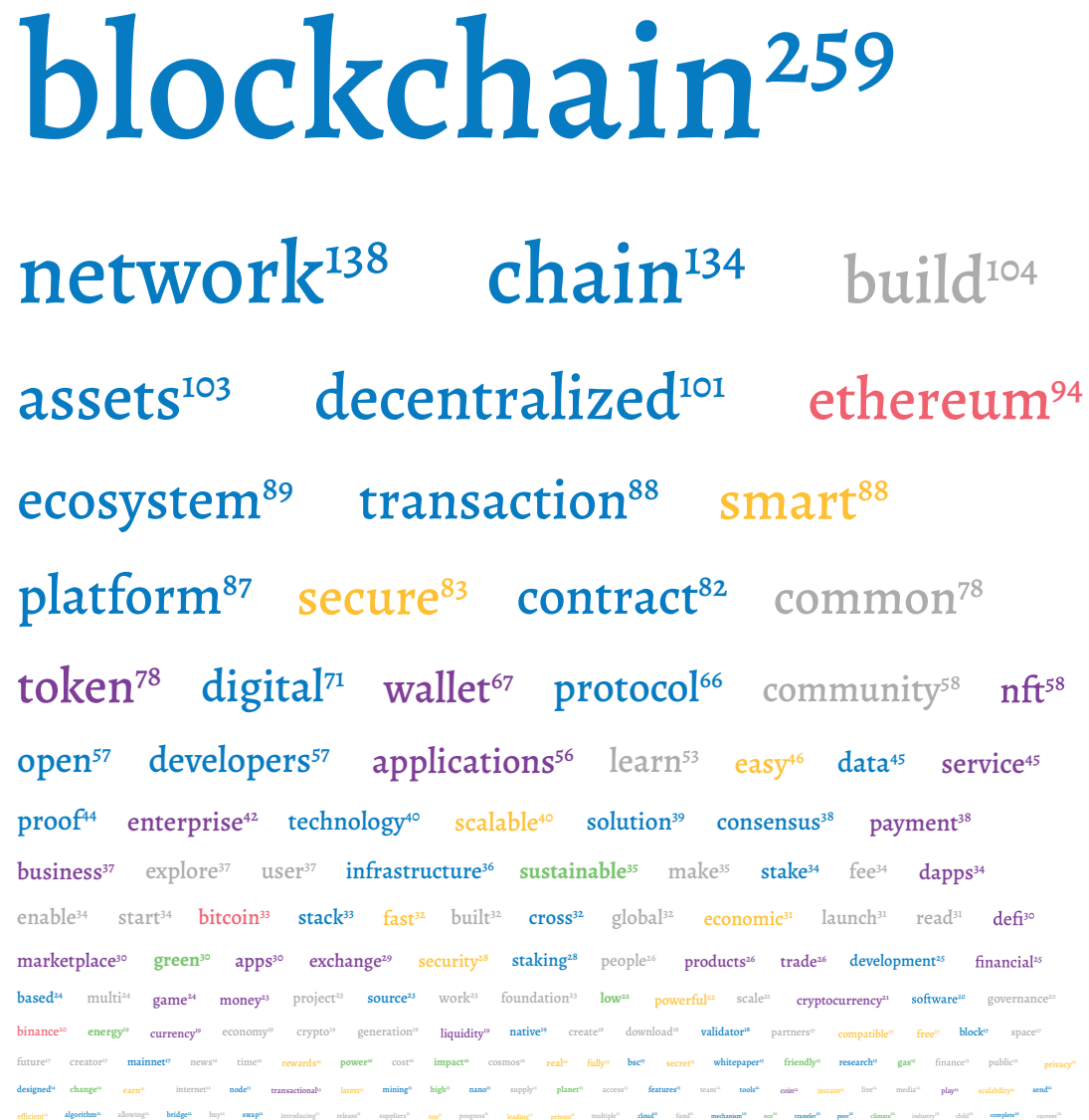


MAIN KEYWORDS

FINDING 2

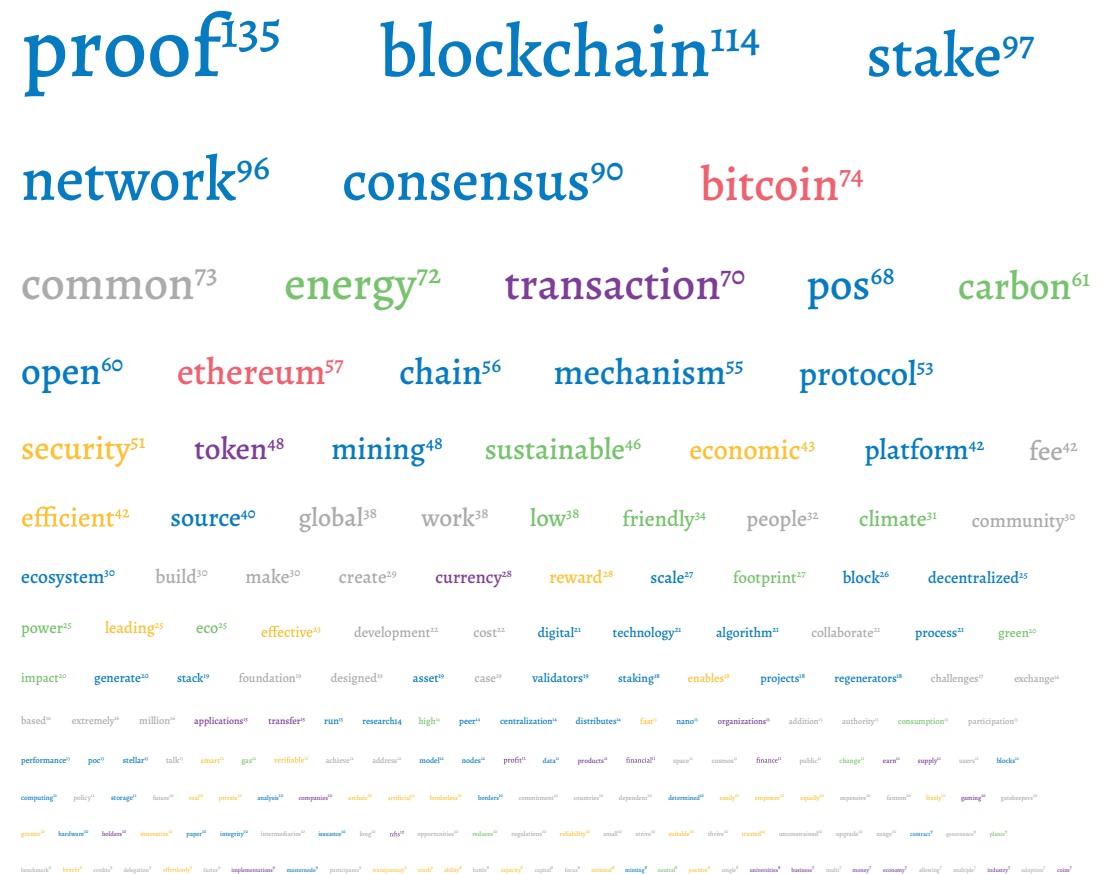
Keywords **from the landing page** mostly focus on the technological, value proposition and the application of the blockchain. Sustainable word count is relatively low.

MAIN PAGE TEXT



Keywords **from the sustainability-related text** focus more on the technological words. The sustainable words in those sections have a higher presence, while application-related words have a lower presence. References are mentioned more often.

SUSTAINABILITY-RELATED TEXT



How to read

blockchain²⁵⁹ Size of the word indicates relative frequency
Index indicates how many times the word occurred

- Technology related keywords
- Blockchain advantages
- Sustainability related keywords
- References to other blockchains
- Blockchain applications
- Common words

DIFFERENCE IN KEYWORDS

FINDING 3

The most prevalent category on the landings pages is **technology**, followed by common keywords, blockchain applications and it's advantages. Sustainability related text occupies a small section.

- Technology related keywords
- Blockchain advanatges
- Sustainability related keywords
- References to other blockchains
- Blockchain applications
- Common words

MAIN PAGE TEXT



Technology and common words are the biggest categories in the sustainability-related text as well, but there is more text about **advantages, sustainability and, references** than on the landing pages, while the application category is less present.

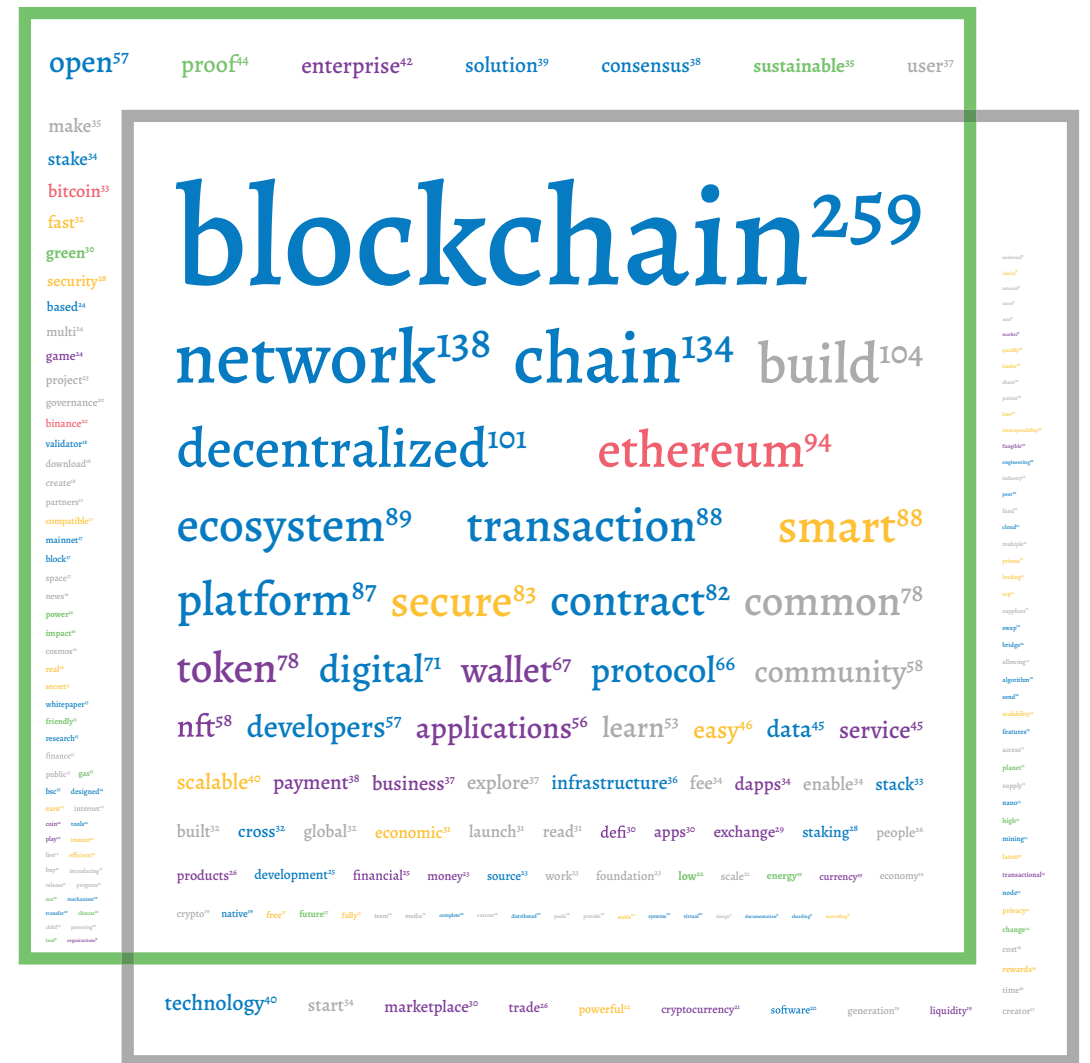
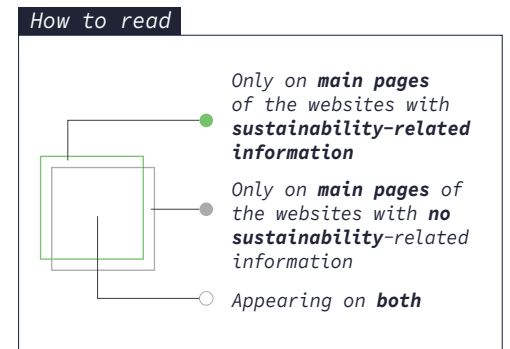
SUSTAINABILITY-RELATED TEXT



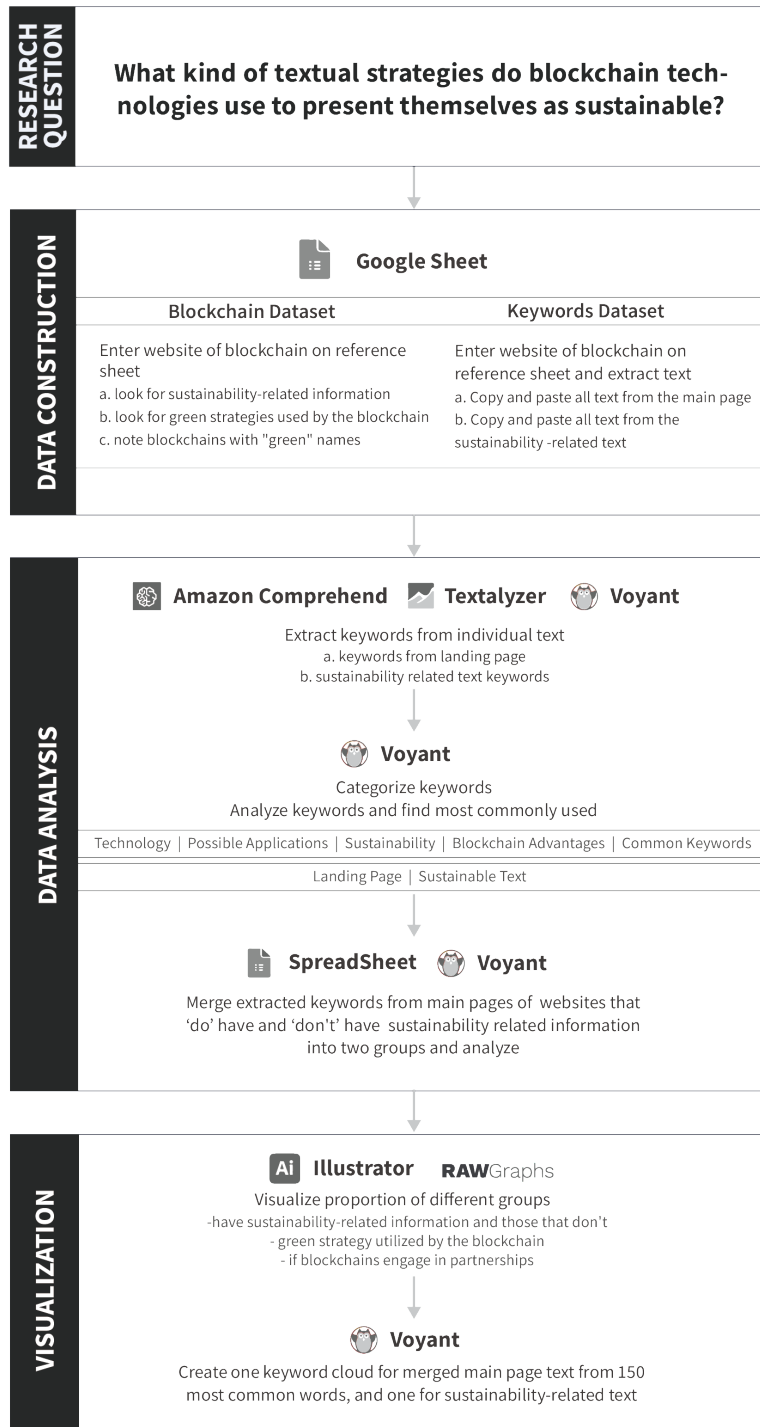
KEYWORDS CATEGORIES

FINDING 4

The **usage of technological and general words** is almost the same across the websites that do have sustainability-related information and on those that don't. The former are more focused on sustainability, blockchain advantages, and references, while the latter are more focused on blockchain applications.



PROTOCOL 2



3 WHO IS BEHIND THE BLOCKCHAINS?

Findings from the third protocol determine who and what type of organizations are involved in the blockchains. Year launched, market cap, headquarter location, and type of organization are considered.



EXPLORE THE DATASET

YEAR LAUNCHED

FINDING 1

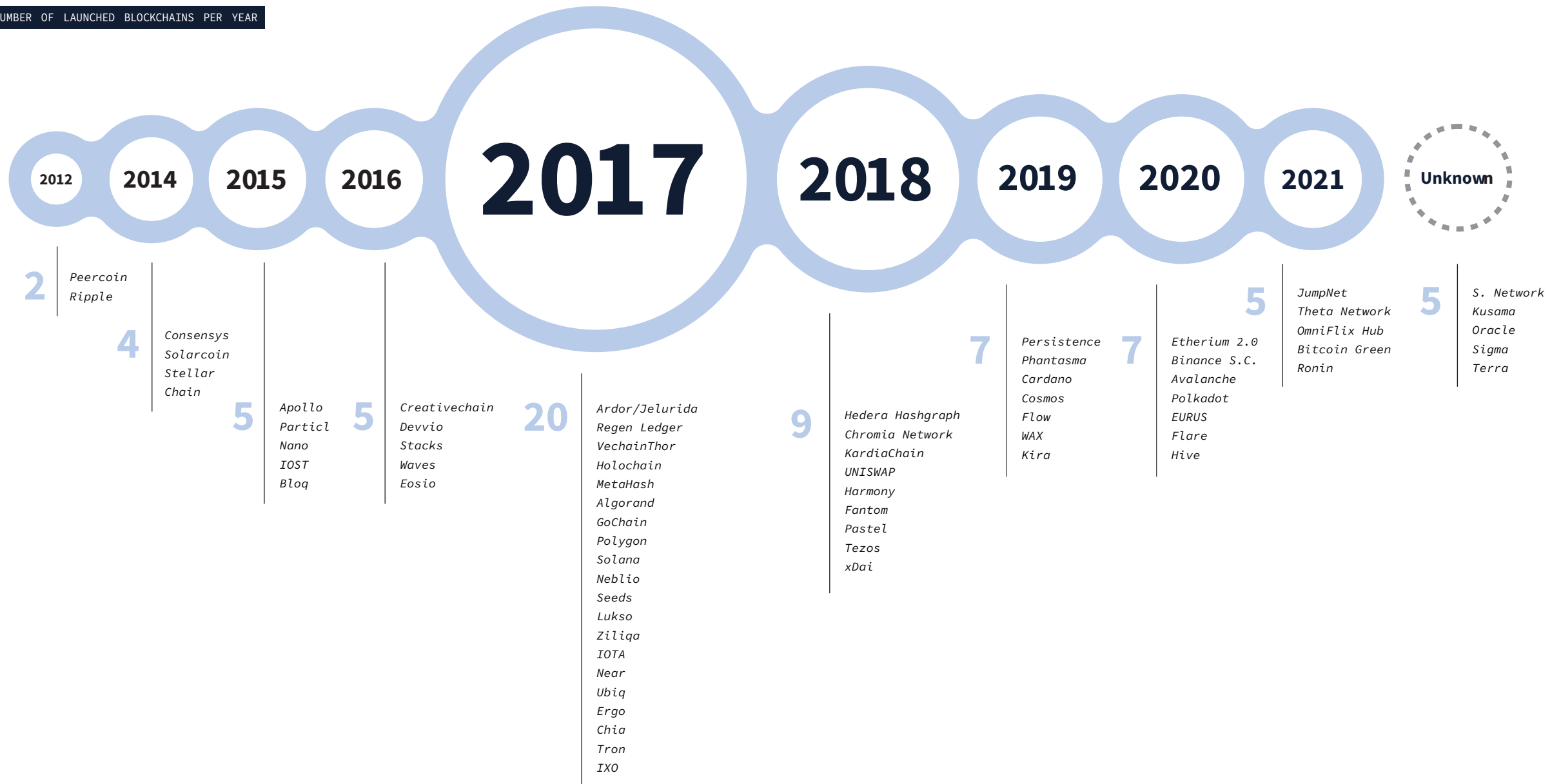
The first sustainable blockchain companies began to arise in **2012**. Since then, launches increased and reached their **outstanding peak in 2017**. In the following years, they began to decrease again.

How to read

Circle-sizes are proportional to **number of companies** launched per year

----- No info

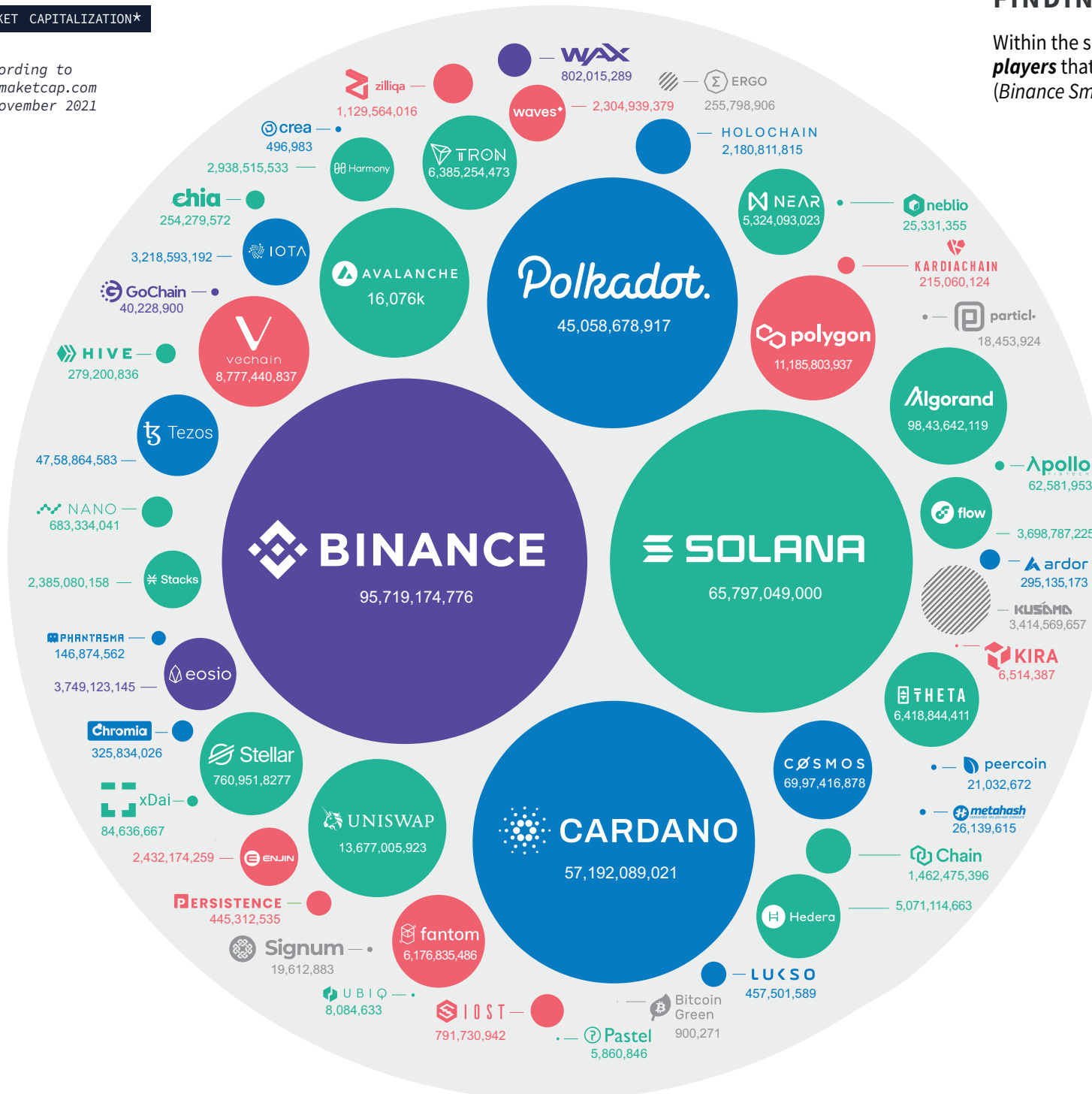
NUMBER OF LAUNCHED BLOCKCHAINS PER YEAR



MARKET CAP

MARKET CAPITALIZATION*

*according to
coinmarketcap.com
in November 2021

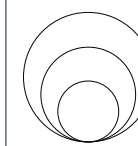


FINDING 2

Within the sustainable blockchain ecosystem, there are **4 big players** that can be determined according to their **market cap**, (Binance Smart Chain, Solana, Cardano, Polkadot)



How to read



Circle-sizes are proportional to **market-cap-values** of the blockchain companies (values in €)

--- No info

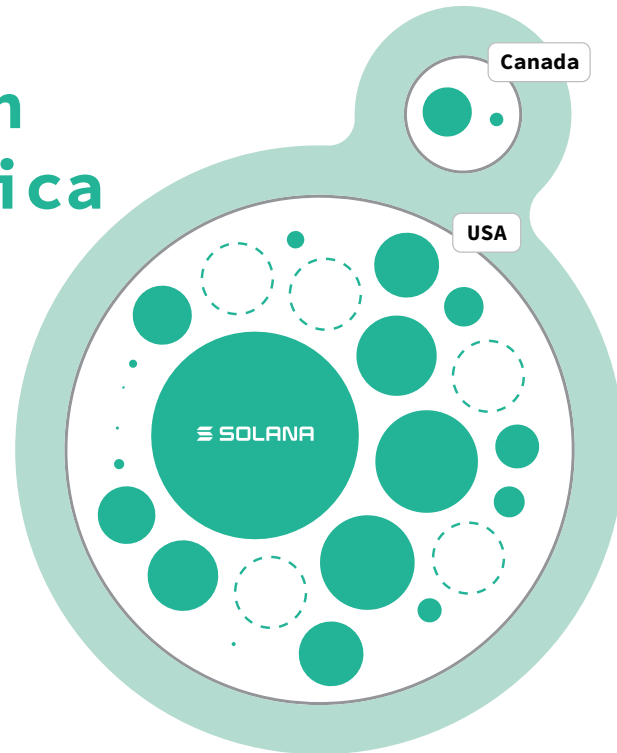
- North America
- Central & South America
- Europe
- Asia
- Unknown

LOCATION & MARKET CAP

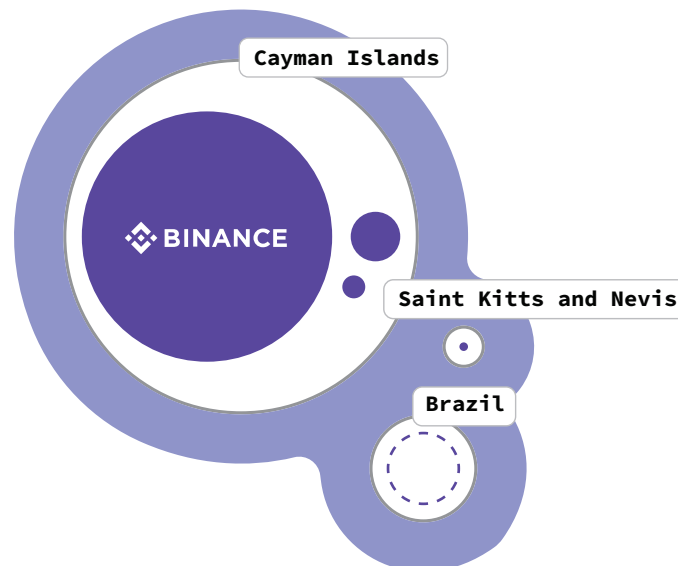
HEADQUARTERS LOCATION* AND MARKET CAP

*according to
crunchbase.com
in November 2021

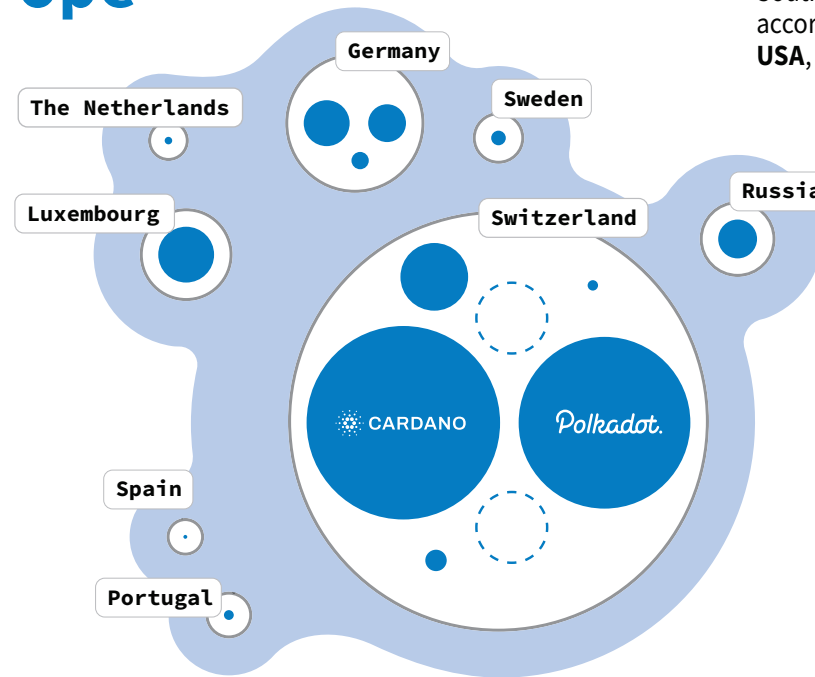
North America



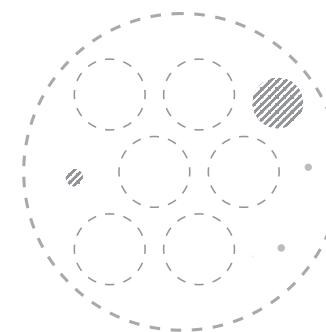
Central & South America



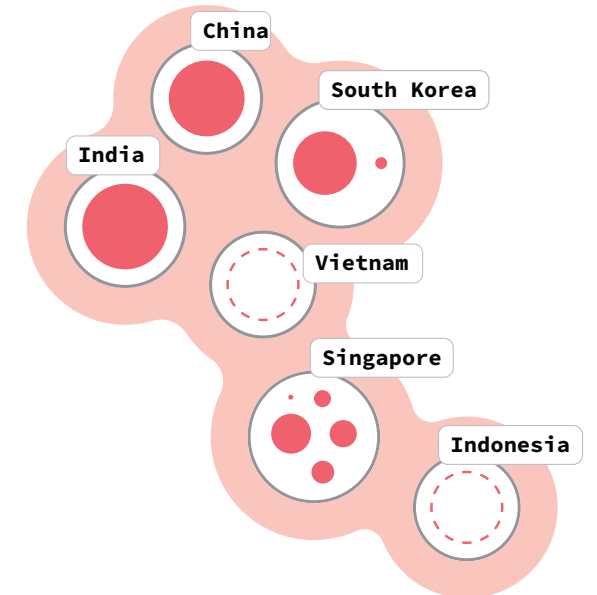
Europe



Unknown



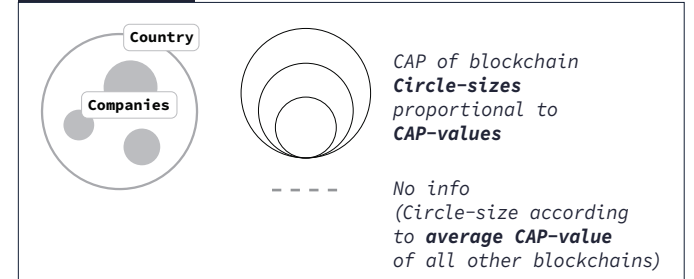
Asia



FINDING 3

Headquarter locations of sustainable blockchain companies are spread out over 4 continents (North America, Central & South America, Europe, and Asia). The **most relevant locations** according to the market cap of their resident companies are the **USA**, followed by **Switzerland** and the **Cayman Islands**.

How to read



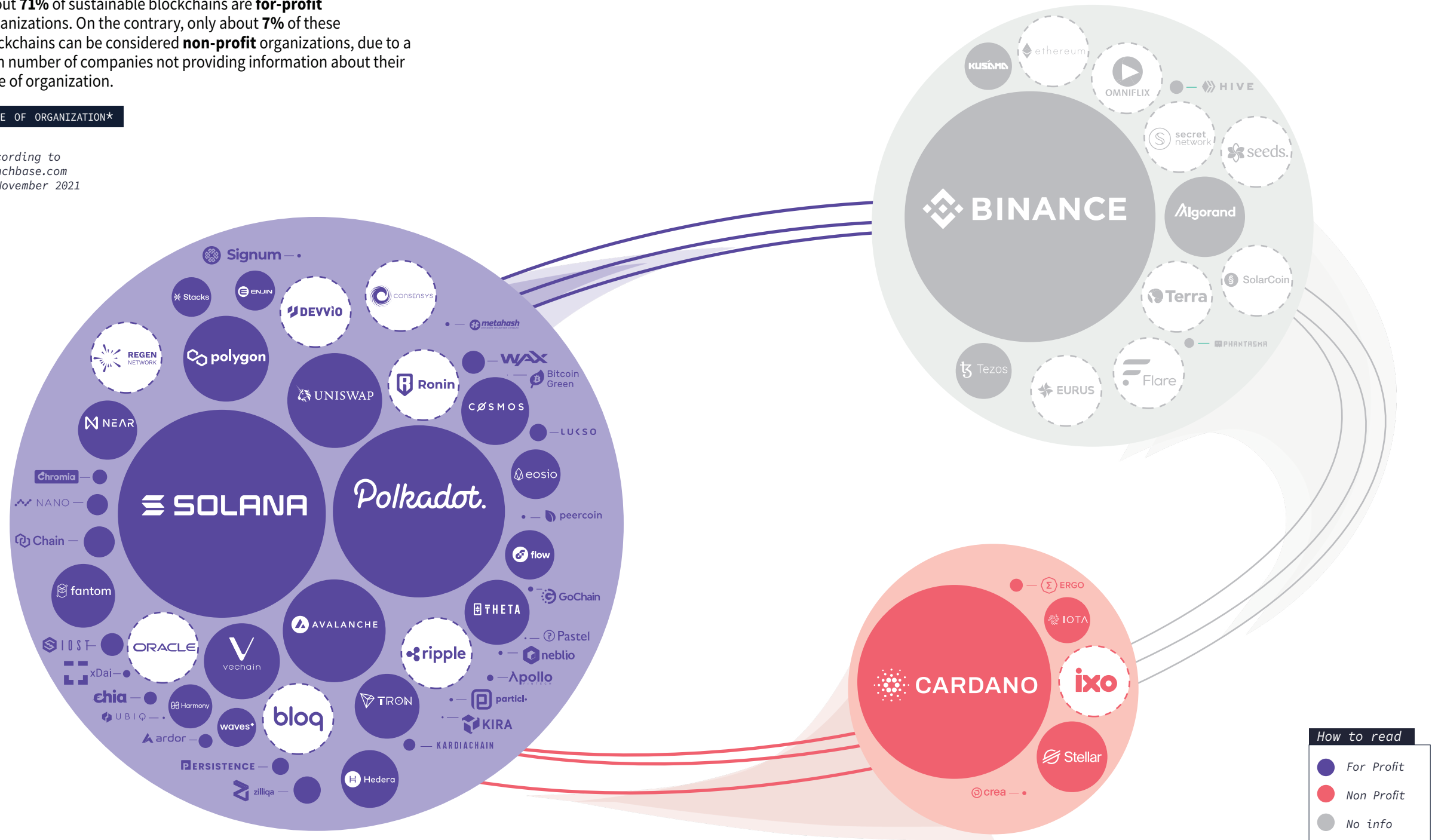
TYPE OF ORGANIZATION

FINDING 4

About **71%** of sustainable blockchains are **for-profit** Organizations. On the contrary, only about **7%** of these blockchains can be considered **non-profit** organizations, due to a high number of companies not providing information about their type of organization.

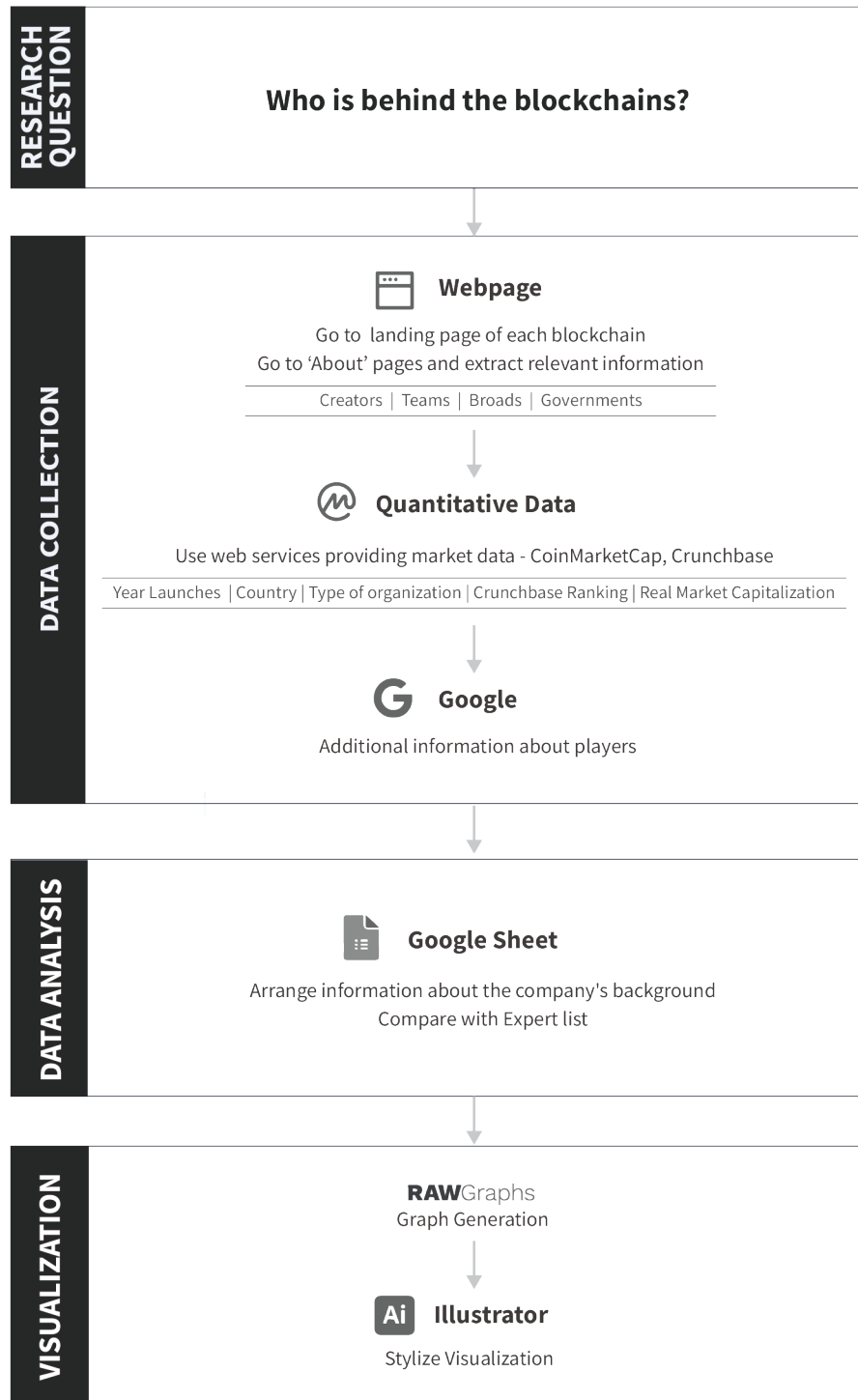
TYPE OF ORGANIZATION*

*according to
crunchbase.com
in November 2021



PROTOCOL 3

CONCLUSIONS



Overall, the majority of the blockchains do not present sustainability as their primary value and instead focus on the technology they are utilizing. This can be concluded from analysis of their visual and textual presentation, where technology-related visuals and words are predominant and sustainability has a much smaller representation. In most cases, the method they choose to be sustainable is the efficient technology they are running on, so oftentimes, sustainability comes as a proxy.

The majority of the blockchains were launched after the boom in 2017 when 20 new companies emerged. Among them, there were 4 big players (*Binance Smart Chain, Cardano, Solana and Polkadot*) that have a combined market capitalization of over 45 billion euros. The blockchains are found around the world, the most popular location being the USA. The majority are for-profit organizations, and a small portion is non-profit. Around 1/5 do not provide information on their organization type.

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PROTOCOL 4

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<https://www.crunchbase.com/>

