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Transparent and secure chip solutions

A fully transparent and auditable chip as a basis for better hardware security.

Genuinely unique   Designed for security   Transparent

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SatoshiLabs and Trezor hardware wallet

- Open source

- Self-sovereignty

- Do not trust, verify

- Security

The current chip market

- Restrictive NDAs

- Unable to share discoveries

- Closed solutions

- Have to trust, can not verify

- Flaws remain hidden

- User community is unable to repair or improve

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The chip market as it's set up currently cannot deliver on the high standards of security and transparency companies demand when it comes to protecting hardware.

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a TRully OPen IC

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Kerckhoff's principles

- "One ought to design systems under the assumption that the enemy will immediately gain full familiarity with them"

- A guiding mantra of security experts, but not practically implemented yet

- Designed for security

Security in obscurity

- Relying on design or implementation secrecy as the main method of providing security to a system or component

- Keeps weak designs in production

- Reduces the need to innovate
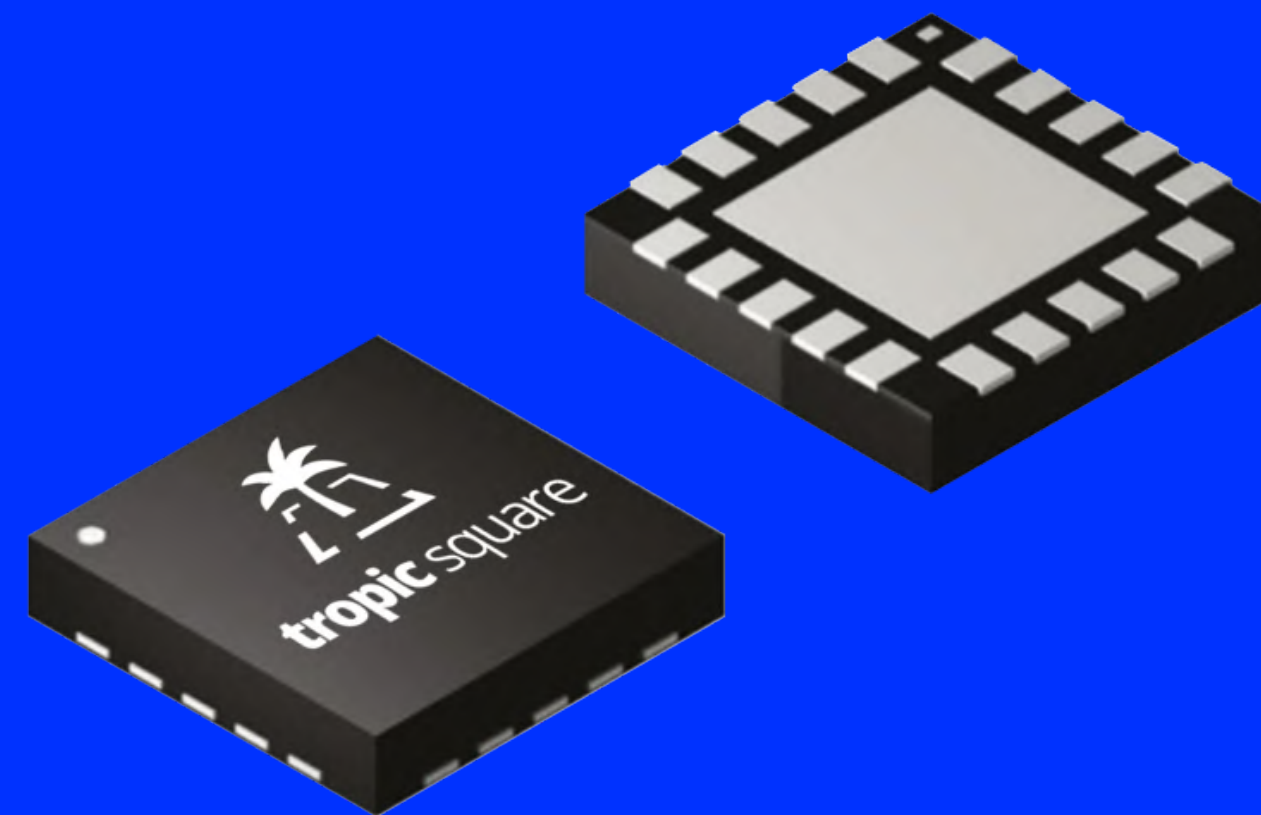
- Old designs used long after they should be retired

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Transparency as a driver of innovation

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TROPIC01

The first auditable secure chip

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Data path to show how user's data are handled in ciphertext / plaintext

Cryptography implementation and key handling

Noise protocol secure channel

ECDSA, EdDSA, ECDH

Authentication and attestation

RISC-V core and firmware

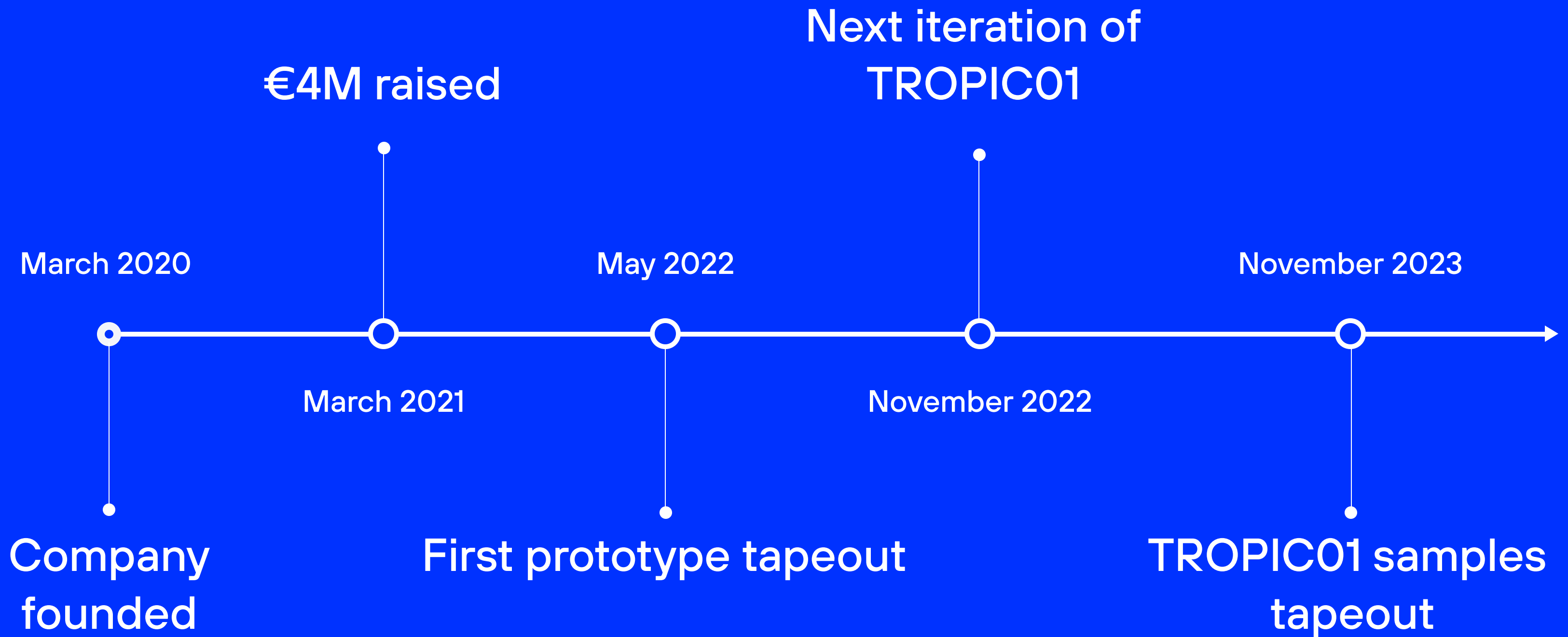3rd party IP cores

OTP, PUF, eFuse, Flash

Attack detectors
Laser, EM, Glitch detectors

Active shield

Chip infrastructure power supplies

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€4M raised

Next iteration of TROPIC01

March 2020

May 2022

November 2023

March 2021

November 2022

Company founded

First prototype tapeout

TROPIC01 samples tapeout

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EU HORIZON-CL3-2021 ORSHIN

- Reduce security threats to open source hardware for connected devices

- Address Tropic's long term vision of transparency & security

- 7 partners - Academia, IDM, SMEs

Czech Universities

- Supported by National Cyber and Information Security Agency

- The transparency and security of Tropic's chip makes it a perfect target for demonstration

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TROPIC02 and 01 derivatives

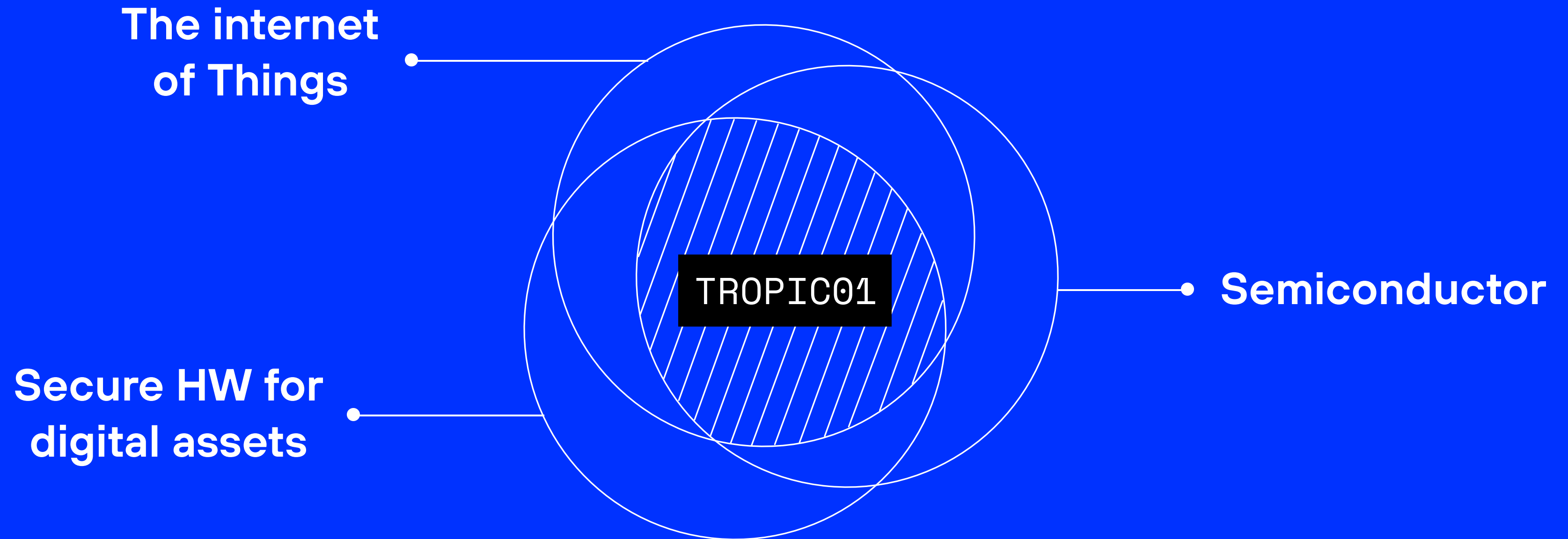- Secure SoC with TROPIC01

Embedded security eco-system

- System solutions on top of TROPICxx chips
- Development services for 3rd party

Fabless chip design studio

- Success with TROPIC01/02 will be transformed into sustainable fabless model of transparent secure solutions

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The internet of Things

Semiconductor

Secure HW for digital assets

TROPIC01

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Evzen Englberth, CEO

- 15yrs experience in EMS
- Managed the development/production of Trezor

Jan Pleskac, CTO

- 20 years in ASIC/FPGA design services
- Worked for Intel, Altera, S3 Group and their customers

Stick & Slush

- Co-founders of SathoshiLabs, advisors to Tropic

Technical team

- 12 internal developers
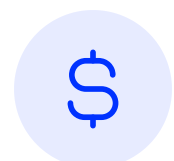- Network of external experts and partners in chip design and security

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Something genuinely new in the market - a fully transparent and auditable security chip as a basis for better hardware security

Our transparent approach aligns with best cryptography practice and will result in better security, delivered faster

A viable route to commercialising and scaling the technology

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Thank you

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