Tesselite

Next Generation A.I. Vision

hello@tesselite.us

CONTENT

Meet
THE TEAM

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CEO, Tesselite

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Co-Founder,
Tesselite

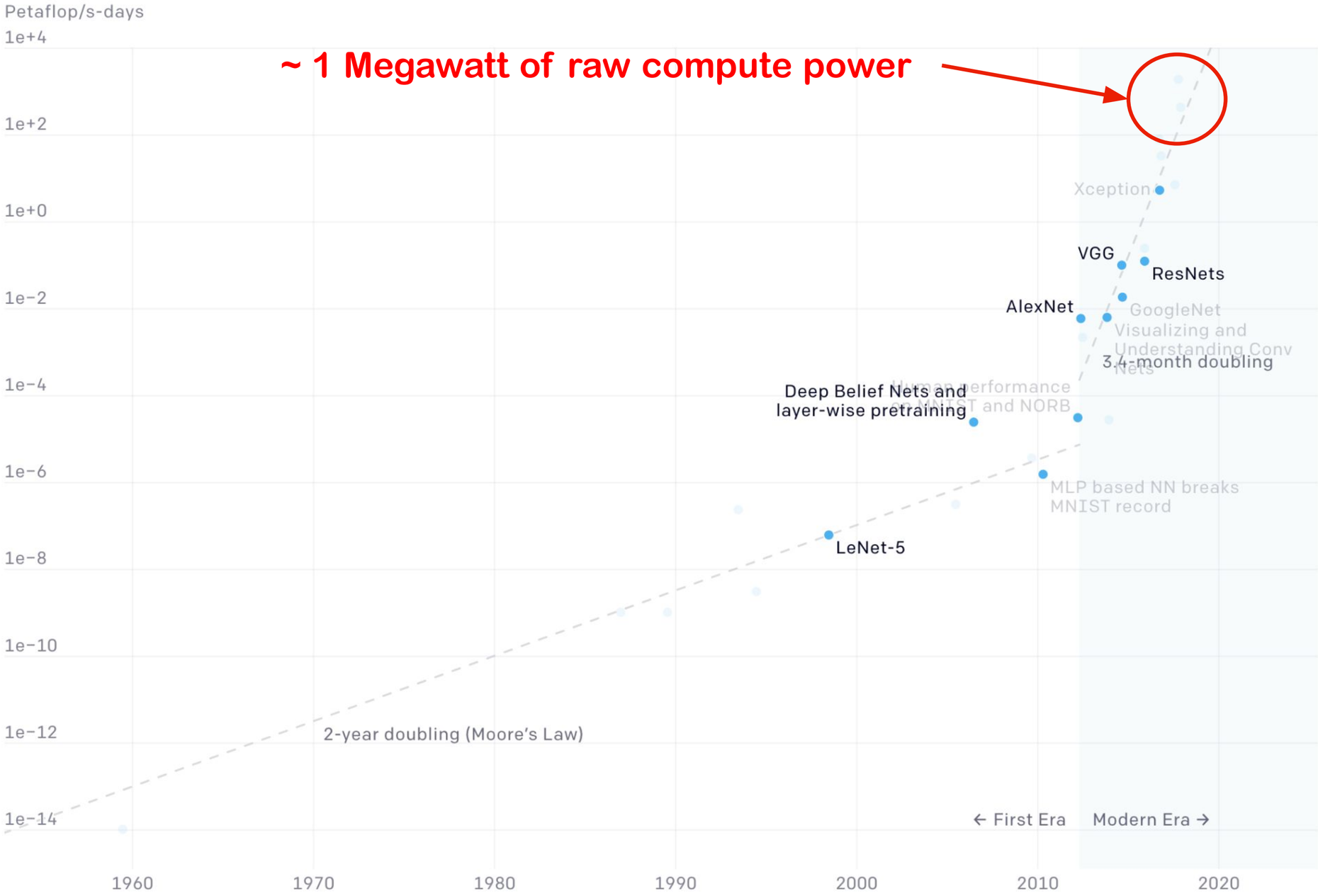
Problem Statement

Problem Statement

- Artificial Intelligence, online streaming and Big Data industries draw a huge amount of network and compute resources.
- Even though those industries attract huge fundings, is this model sustainable?

Problem Statement

- Latest Artificial Intelligence models drain the compute capacity and power supply of a large data center.
- In contrast, natural intelligence takes **35w** to train and infer in realtime in hundreds of milliseconds.



source: openai.com

Problem Statement

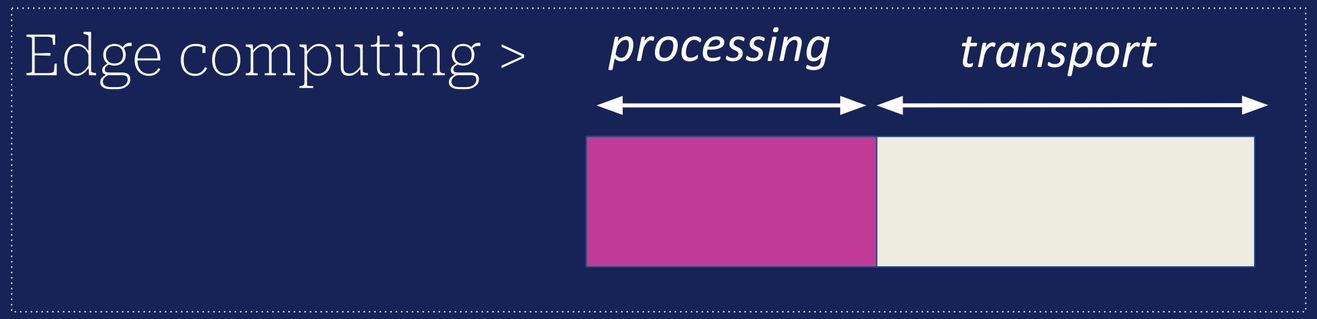
- global turmoil demonstrates that super expensive, single-purpose, network-oriented hardware and algorithms won’t last the distance.
- A.I. algorithms might be accurate but the accuracy must be balanced with the cost to get there (CapEx and OpEx)

Problem Statement

- all A.I. businesses face routinely the following impediments:
  - data security
  - data privacy
  - latency and performance

Problem Statement

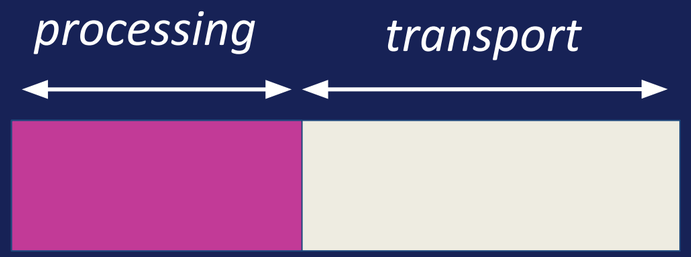
- Regarding performance:
  - We build an internal benchmark
  - To breakdown,
    - how the processing time is spent in A.I. vision models?



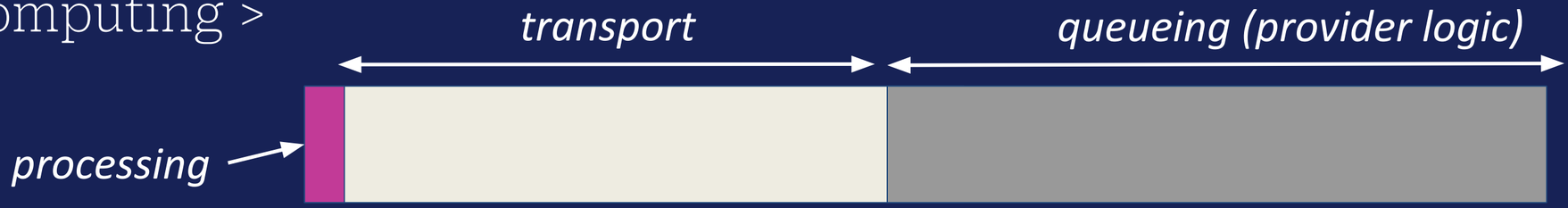
Problem Statement

- Outcomes:
  - on edge computers, less than 40% of processing time is spent actually processing
  - on cloud computers, most of time is spent doing something else than processing

Edge computing >



Cloud computing >



Tesselite Vision

Tesselite Vision

- From an engineering perspective,
  - there is no tomorrow to cloud and network AI vision APIs
  - all efforts must be focused on boosting Edge AI Computing

Tesselite Vision

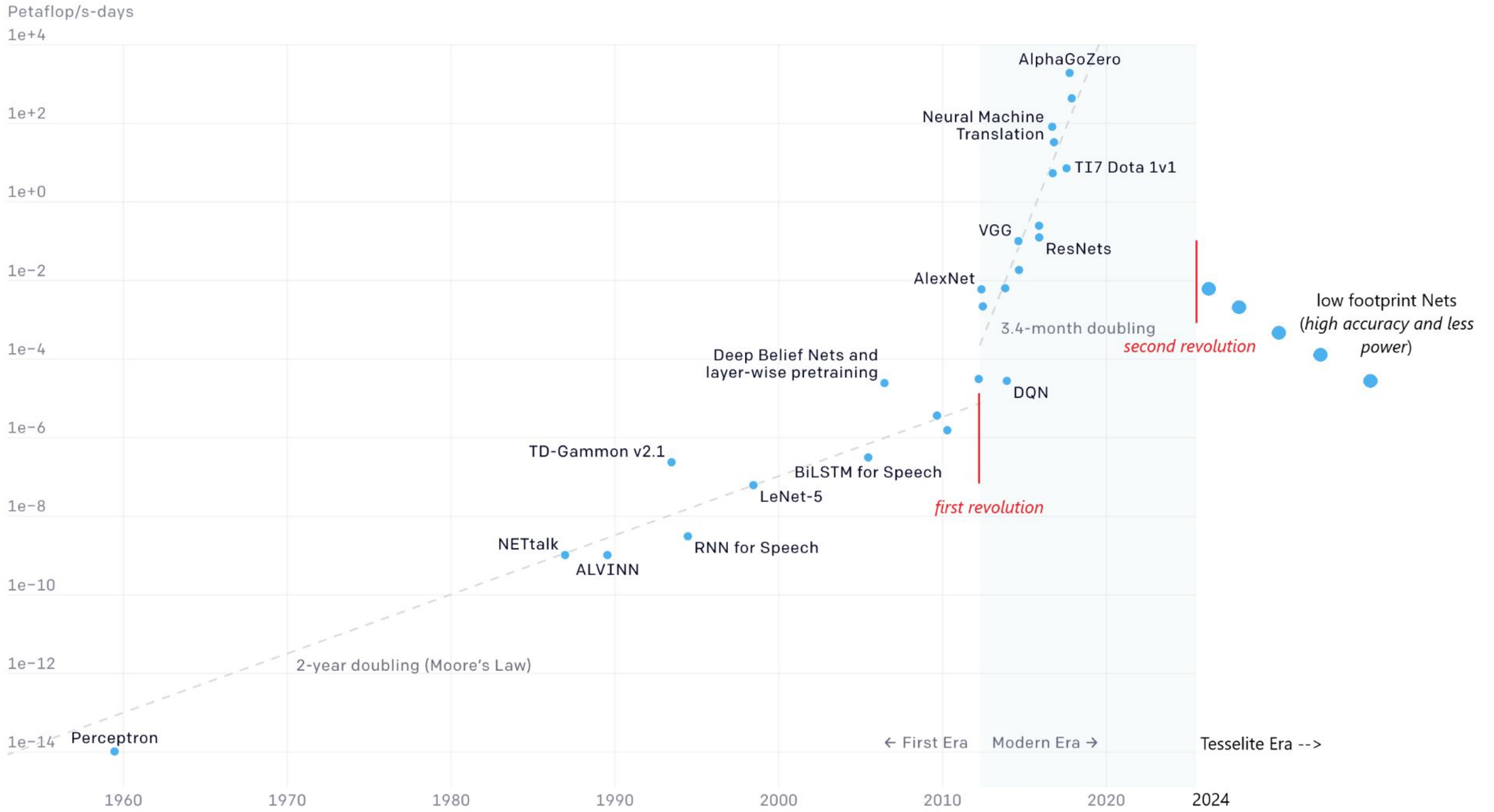
- From an higher perspective, future Artificial Intelligence will feature natural intelligence properties:
  - analog: use *physical signal*
  - low footprint: *less power and data*
  - multiphysics: *use multiple signals*

Tesselite Vision

- Isn’t Tesselite about another A.I. revolution?

Three

~~Two~~ Distinct Eras of Compute Usage in Training AI Systems



Product(s)

*generated by A.I.

Product(s)

- The whole project originated from a router with AI capabilities, named … “Tesselite”
- Tesselite router is the central nerve of edge deployment:
  - running larger inference,
  - updating models,
  - routing..

Product(s)

- Tesselite evolved towards an entire ecosystem:
  - Acquisition devices
    - UAVs,
    - cameras..
  - Waterproof charging cells
    - a “munitions” station where charging cells are dockered in rows
  - A realtime vision enhancement helmet

Market Overview

The Market

- Tesselite Vision is spreaded between Hardware and Software A.I.

The Market

A.I. services

- *size: 5 B$*
- *growth rate: 15%*

Tesselite

Edge A.I.

- *size: 15 B$*
- *growth rate: 20%*












Startups Galaxy+

The Market

- A.I. services are leaded by a galaxy of startups providing cloud based APIs stacked over APIs
  - e.g. AI platforms, generative AIs, bots..
- A.I. edge is leaded by regular chips makers provided AI optimized hardware

The Market

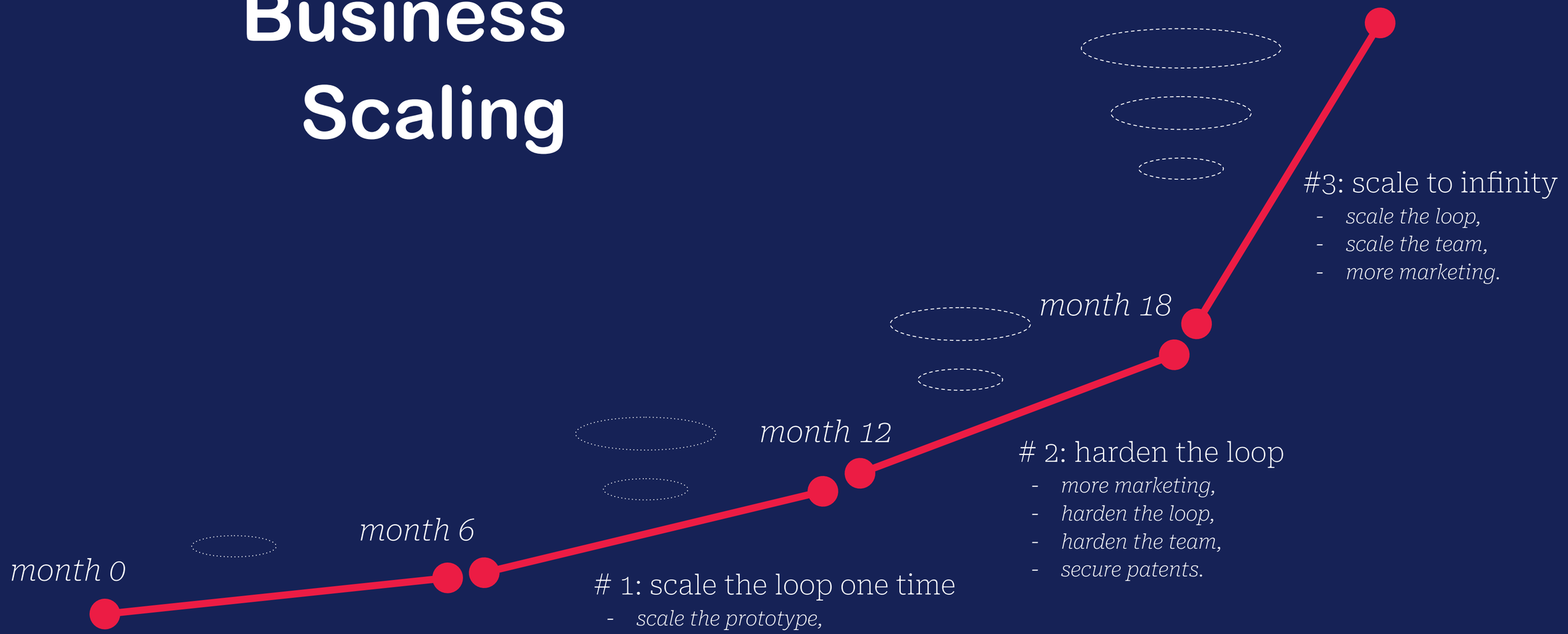
- In the Galaxy above,
  - Tesselite will deliver finished products
    - not APIs, not bare hardwares
  - Just well engineered and finished products

The Market

- Tesselite’s Ambition:
  - to become a key player of AI edge devices/services
  - to grab 5% of both markets ~ 1B$
  - to grow with the market ~ 20% / y.

Business Scaling

Business Scaling



0: build a core business loop

- *a hardware prototype,*
- *a software prototype,*
- *market and engage a customer,*
- *gather the team to sustain the loop,*
- *write patents.*

1: scale the loop one time

- *scale the prototype,*
- *more marketing,*
- *engage more customers,*
- *double the team.*

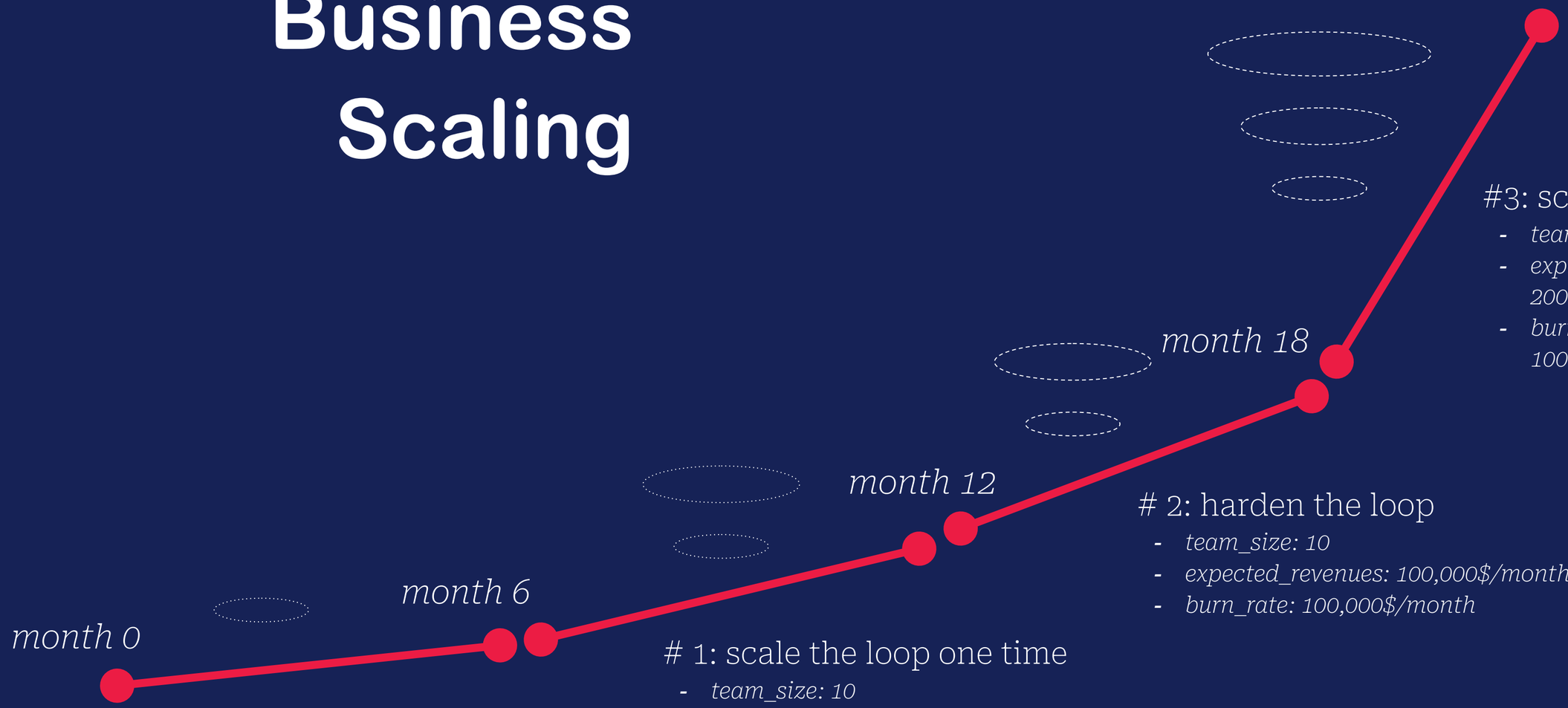
2: harden the loop

- *more marketing,*
- *harden the loop,*
- *harden the team,*
- *secure patents.*

#3: scale to infinity

- *scale the loop,*
- *scale the team,*
- *more marketing.*

Business Scaling



0: build a core business loop

- *team_size: 6*
- *expected_revenues: 0$/month*
- *burn_rate: 50,000$/month*

1: scale the loop one time

- *team_size: 10*
- *expected_revenues: 50,000$/month*
- *burn_rate: 100,000$/month*

2: harden the loop

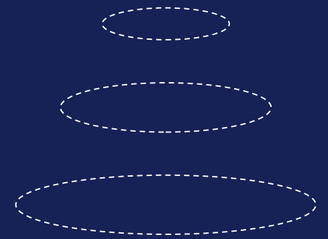
- *team_size: 10*
- *expected_revenues: 100,000$/month*
- *burn_rate: 100,000$/month*

#3: scale to infinity

- *team_size: 20+*
- *expected_revenues: 200,000$/month+*
- *burn_rate: 100,000$/month+*

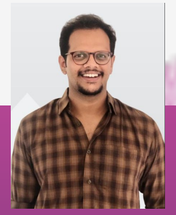
Company Scaling

Round(s)	Minimum funds
# 0	300,000$
# 1	600,000$
# 2	600,000$
# 3	600,000$+



The TARGET TEAM (#0)

CEO



Co-Founder

[redacted]

ML Engineer

[redacted]

Mechatronic Engineer

[redacted]

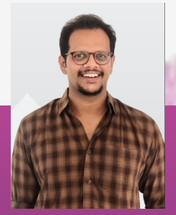
Business Advisor Legalist

[redacted]

Image Advisor Marketing

The TARGET TEAM (#1)

CEO



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Mechatronic Engineer

[redacted]

Business Advisor
Legalist

[redacted]

Image Advisor
Marketing

[redacted]

Software Engineer

[redacted]

Electronic Operator

[redacted]

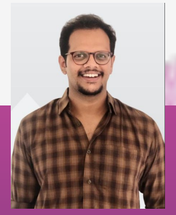
Intern #1

[redacted]

Intern #2

The TARGET TEAM (#3)

CEO



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Mechatronic Engineer

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Business Advisor Legalist

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Image Advisor Marketing

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Software Team

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Business Team

Tesselite

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More…

Tesselite:

More than an another A.I. revolution?

- Treats data acquisition, routing, AI processing as a mathematical problem.
  - An application is a mathematical function that transforms input data into product space or UX service.
- Tesselite optimizes
  - the function and data spaces
  - in respect of computational demand and accuracy.
  - all in real-time!

Tesselite:

More than an another A.I. revolution?

- Automate decision-making on how to deploy applications in different scenarios:
  - Predict any potential deployment conflicts and roll back changes in case of errors.
  - The tool collects and integrates data from various sources, such as logging information, user feedback, and performance metrics, to continuously learn and improve the deployment process.
  - Tesselite will automatically revert application changes that impact the business.

Tesselite:

More than an another A.I. revolution?

Hardware costs Tesselite softens hardware usage and data acquisition to optimize the most cost effective.

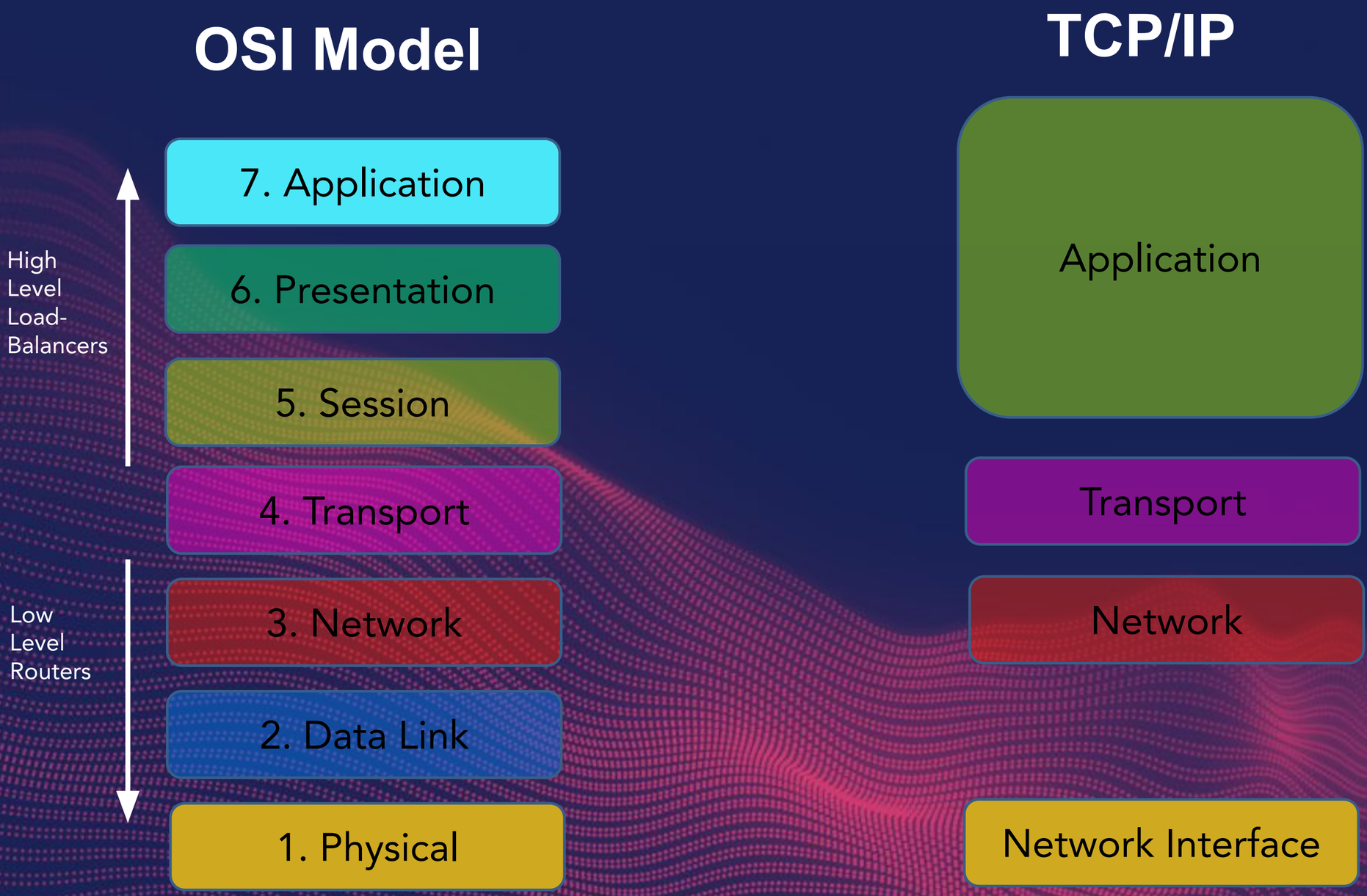
Observability

Productions without observability use a rolling strategy (painstaking deployment). Productions with observability use canary but are difficult to maintain and understand.

Tesselite observes and deploys simultaneously.

Eliminates downtimes and makes use of effective A/B testing /canary release. Ensures backward compatibility.

Networks Before!



Networks Imagined with Tesselite!