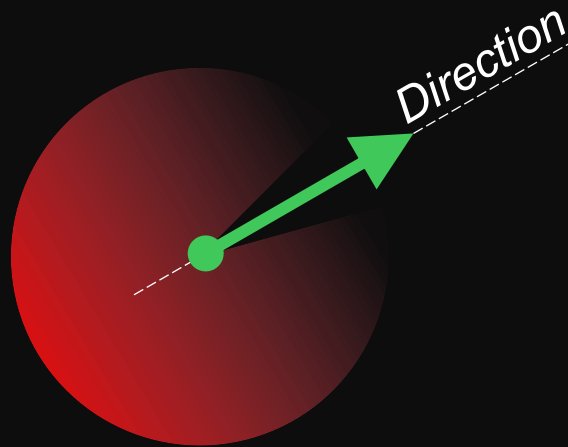# Lessons Learned From Leading Several Lean Transformations, Ranging From a Start-up to Large Multinational Corporations

Direction

Full Feedback Cycles

The Team's Work Flow

Keep it Simple – No Premium for Complication

THE SCIENCE OF IMPROVING INNOVATION

AUFERO

Purposes of Transformation

← where come from | **Why?**

- **Customers** dissatisfaction
- Constantly **delayed**
- Long Customer **Lead Time**
- "Reinvents the wheel"
- Disrupted (**technology**, SaaS, A.I. …)
- Financial **setbacks**
- Unmotivated **employees**
- etc.

Vision! | **on the way to →**

- Create superior **customer value**
- Build the right things (**effectiveness**)
- Reduced **Time To Market**
- Improve customer **retention**
- Create more **innovations**
- **ROI** increase
- **Engaged and responsible** employees
- etc.

AUFERO

Learnings from Multiple Transformations

Key Enabler	1st	2nd	3rd	4th
C-level sponsors	◉	◉	◉ / ✗	◉
Teams (small, multi-talented)	◉	✗	▲	◉
Entrepreneurial Leadership	▲	◉	✗	▲
Rapid problem-solving	◉		▲	◉
Make flow visible	▲	✗	▲	◉

◉ = Good   ▲ = With deviations   ✗ = Not working / in use

Made a framework, learned how to solve problems rapidly

Team grow too fast, failed to train new leaders/ trainers

Good start, but C-level sponsor left after a year. Old school successor

Clear direction, small teams tested first and made gaps visible

Improvements for next transformation ➜

AUFERO

Learnings from Multiple Transformations

Key Enabler	1st	2nd	3rd	4th	Learnings to make use of
C-level sponsors	1	1	1	1	Sponsors providing long-term support crucial
Teams (small, multi-talented)	2	X	2	2	Leaders train small teams, expand stepwise
Entrepreneurial Leadership	▲	2	X	3	Define 'Direction of Travel' (value-focus)
Rapid problem-solving	3	3	4	4	Ask to be sure – run many simple trials to error
Make flow visible	4	X	3	5	All sees portfolio, products & gaps

⚙ = Initial focus and training   ① = Transformation priorities/ order

Entrepreneurial Leader-ship ↗ Direction ↗ Gap

Network of small teams function/ customer value Teams test and design

C-level ↗ Teams ↗ Direction ↗ Small trials ↗ Flow on all levels

Co-create based on major principles

More Do's and Don'ts (case by case) ➔

Do's and Don'ts

- Do yourself, what you wants others to do. Be the **role model**.

- Do act both as a leader and **the trainer**.

- Do organize in a network of **small teams**, learning about different customer value perceived by end users.

- Do gather **customer feedback** from joint testing, accept that it's a buyer's market you serve.

- Do **on-the-job-training** to the problems.

- ✗ Don't expect to successfully conduct a sustainable transformation without long-term commitment from **C-level**.

- ✗ Don't <u>ever</u> wait, to build even more complete **prototypes**. Feedback cycles become too slow, test results too complex, and unknown risks emerge too late.

- ✗ Don't let "perfect get in way of better." Rather a **constant flow** of many small victories.

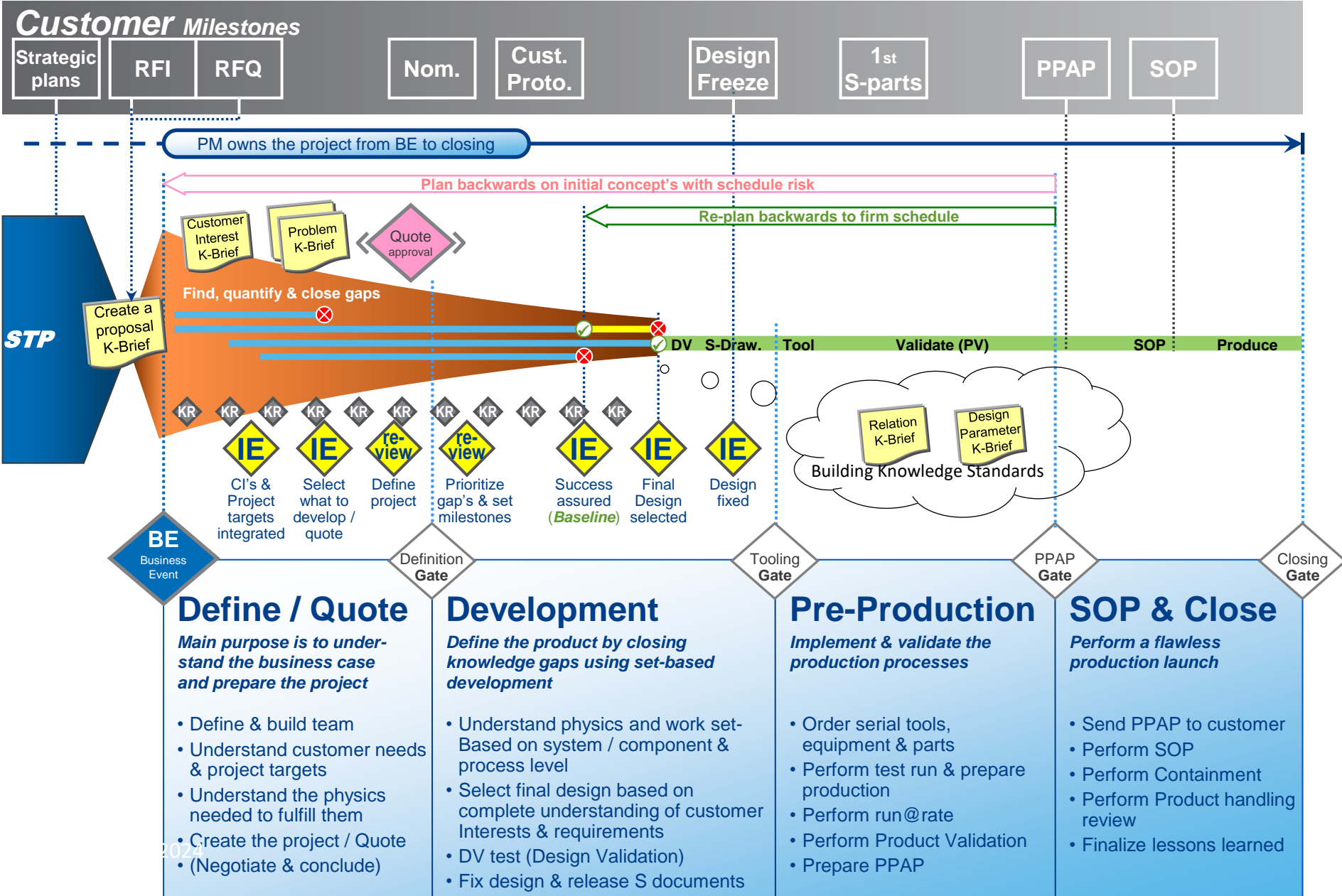- ✗ Don't lock yourself in a **detailed plan**, without buffer time to protect for variance.

AUFERO

1st

Global Tier 1

10 000 employees

HQ in Scandinavia

My Role:

R&D Director +
Transformation Leader

Rapid Problem Solving Through A3 Process and LAMDA Technique

Oct 2, 2024

2nd

Tier 2

Start-up – New Venture
Business Development

HQ in Scandinavia

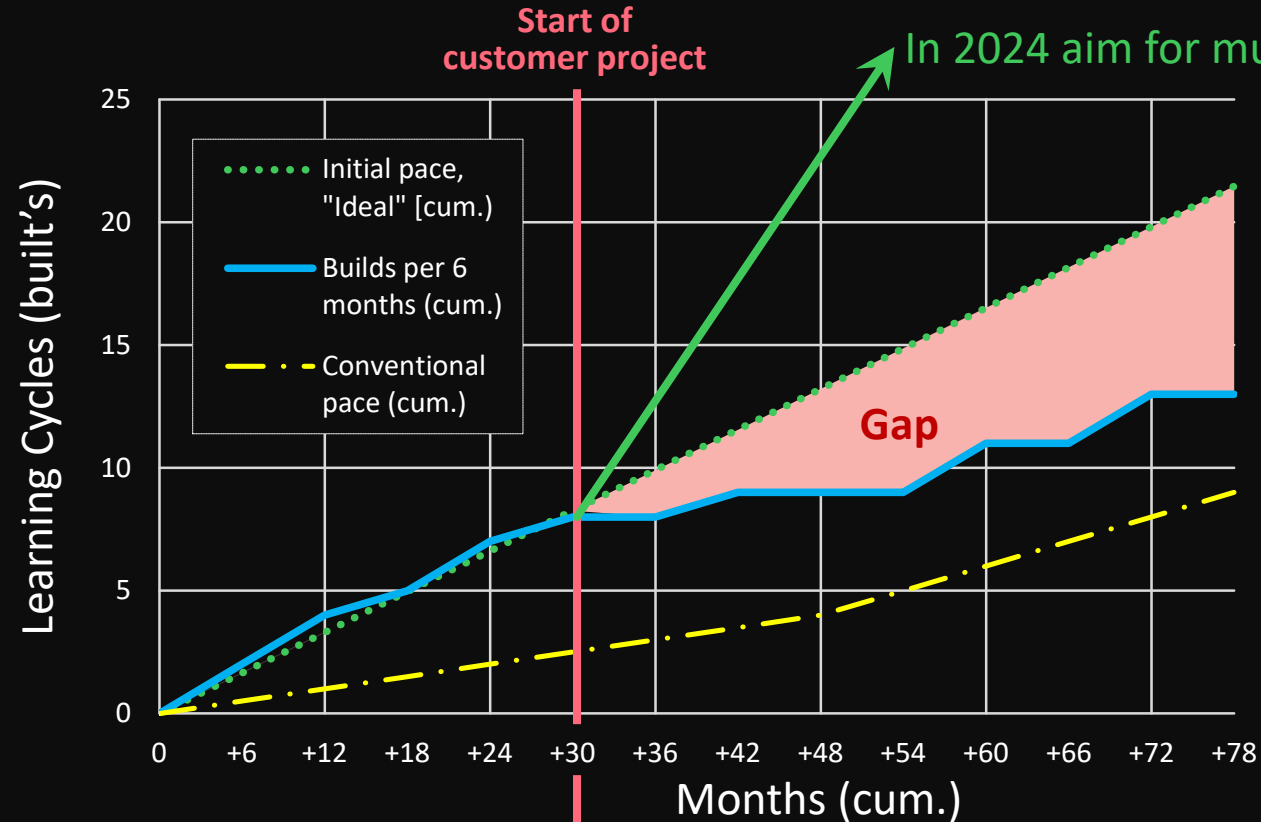My Role:

CEO +
Entrepreneur

AUFERO

Lost Momentum, Flow and Small Teams

Start of customer project

In 2024 aim for much shorter cycles

Learning Cycles (built's)

- ⋯⋯ Initial pace, "Ideal" [cum.]
- ─── Builds per 6 months (cum.)
- ─·─ Conventional pace (cum.)

Gap

Months (cum.)

From Start. Small Teams made own plans and delivered outcomes in 4 months iterations:
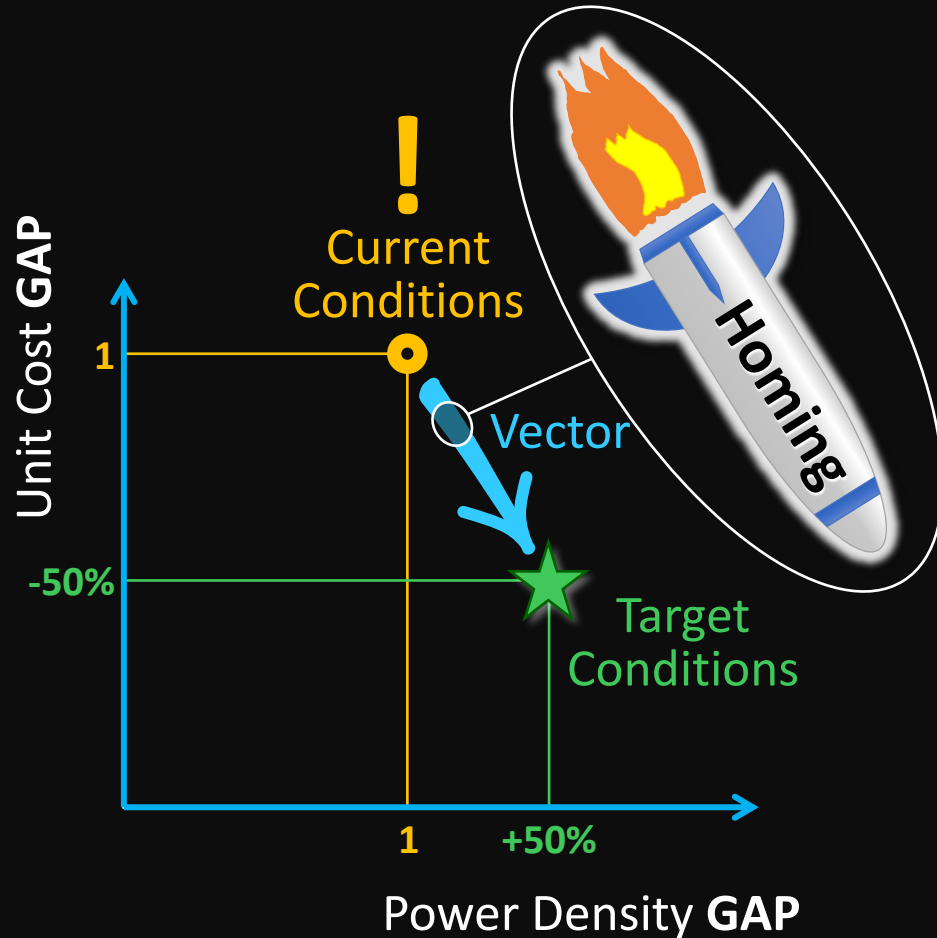
8 feedback learning cycles in 30 months

Thereon. Project Managers "bought hours" and aligned built's to customers' 12 months iterations:

3 feedback learning cycles in 30 months

AUFERO

Entrepreneurial Leadership:
Define the 'Direction of Travel' (Vector)

- No one can determine an outcome in a complex situation, but you can measure the **vector** i.e.

- Are we going in the **right DIRECTION** at the **right SPEED** and with the **right RESOURCES**.

Current Conditions

Vector

Homing

Target Conditions

Unit Cost **GAP**

1

-50%

1   +50%

Power Density **GAP**

AUFERO
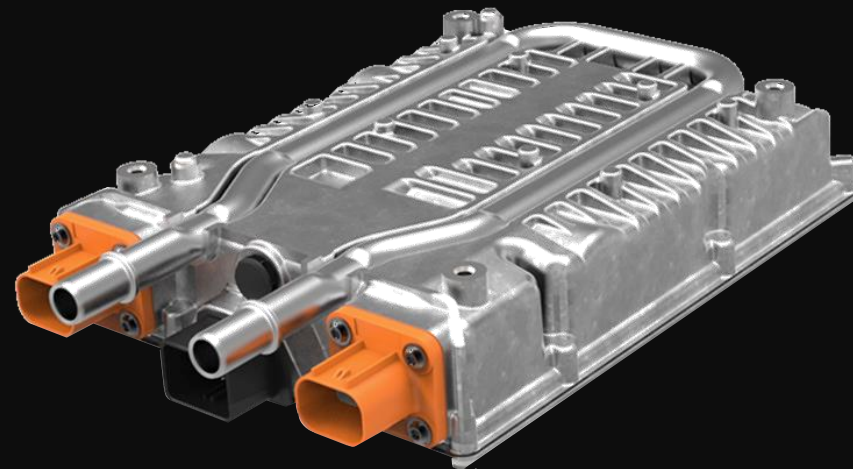
3rd

Global Tier 1

New Category Product

20 000 employees

HQ in U.S.

My Role:

R&D Director +
Transformation Leader

AUFERO

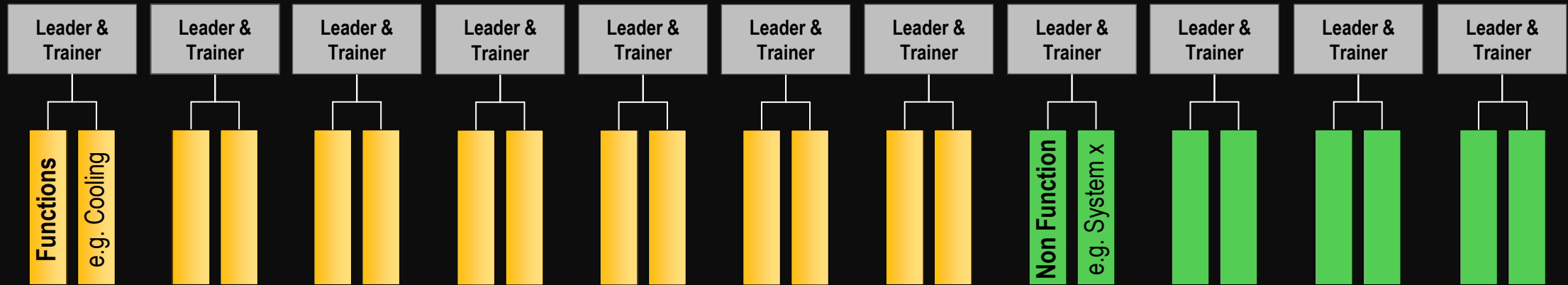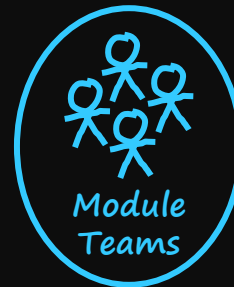# Flat Organization – Network of Small Module **TEAMS**

Leaders and Trainers

Leader & Trainer	Leader & Trainer	Leader & Trainer	Leader & Trainer	Leader & Trainer	Leader & Trainer	Leader & Trainer	Leader & Trainer	Leader & Trainer	Leader & Trainer	Leader & Trainer

Functions | **e.g. Cooling**

Non Function | **e.g. System x**

- FUNCTION is basis to define CUSTOMER VALUE

- "Verbs" not "Nouns" (to Cool not the Cooler)

Module Teams

- Small Module Teams run full feedback cycles i.e. connect front and back ends

- Team own its Flow and Knowledge

Oct 2, 2024

Copyright © 2017-2024 Christer Lundh

AUFERO
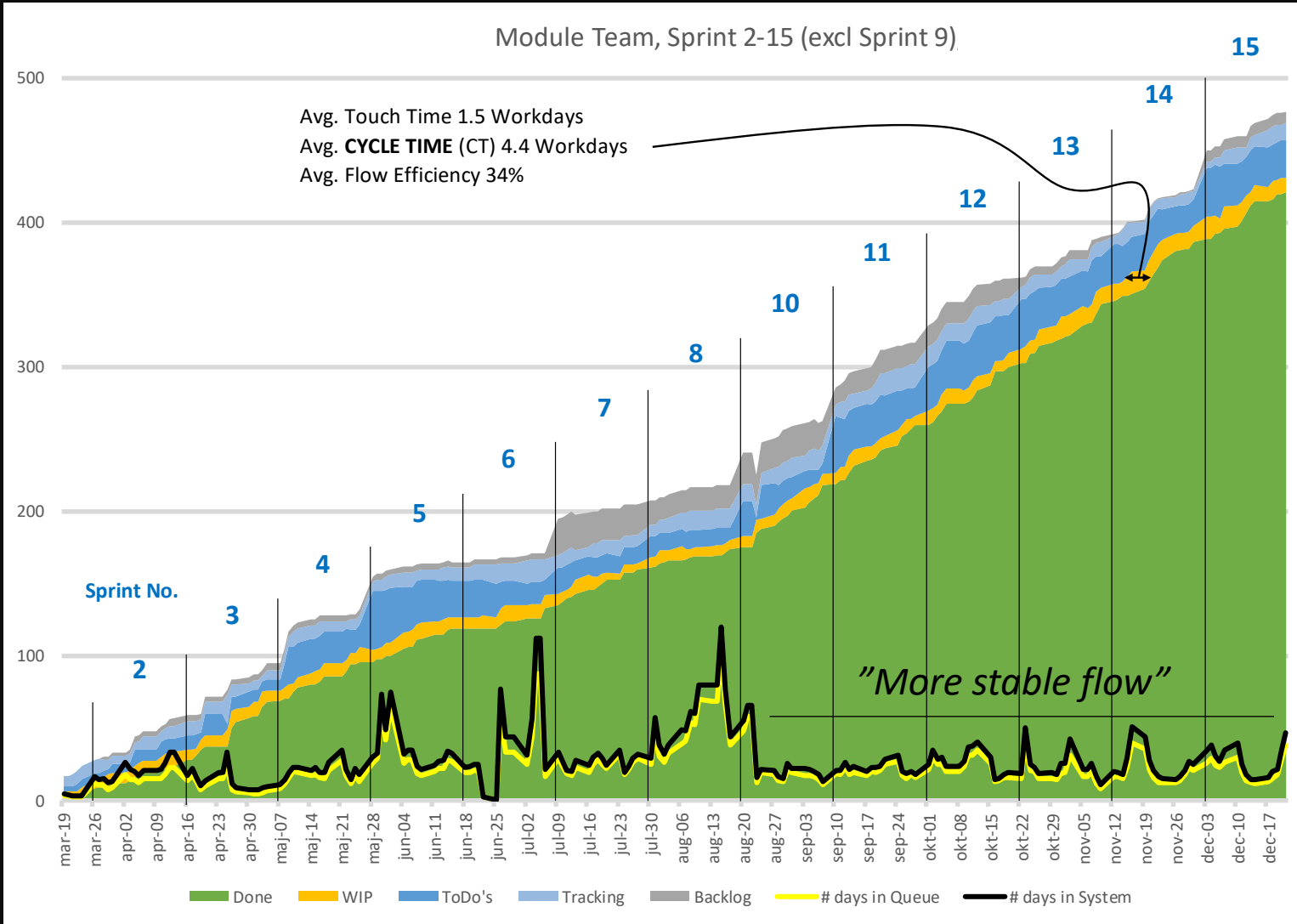
4th

Global Tier 1-3

New Category Product
(+Pandemic)

1 500 employees

HQ in Scandinavia

My Role:

R&D Director +
Transformation Leader

AUFERO

Module Teams Cumulative **FLOW** Diagram

Module Team, Sprint 2-15 (excl Sprint 9)

Avg. Touch Time 1.5 Workdays
Avg. **CYCLE TIME** (CT) 4.4 Workdays
Avg. Flow Efficiency 34%

Sprint No.

"More stable flow"

Legend: Done | WIP | ToDo's | Tracking | Backlog | # days in Queue | # days in System

Specific Module Team:

- 13 Sprints

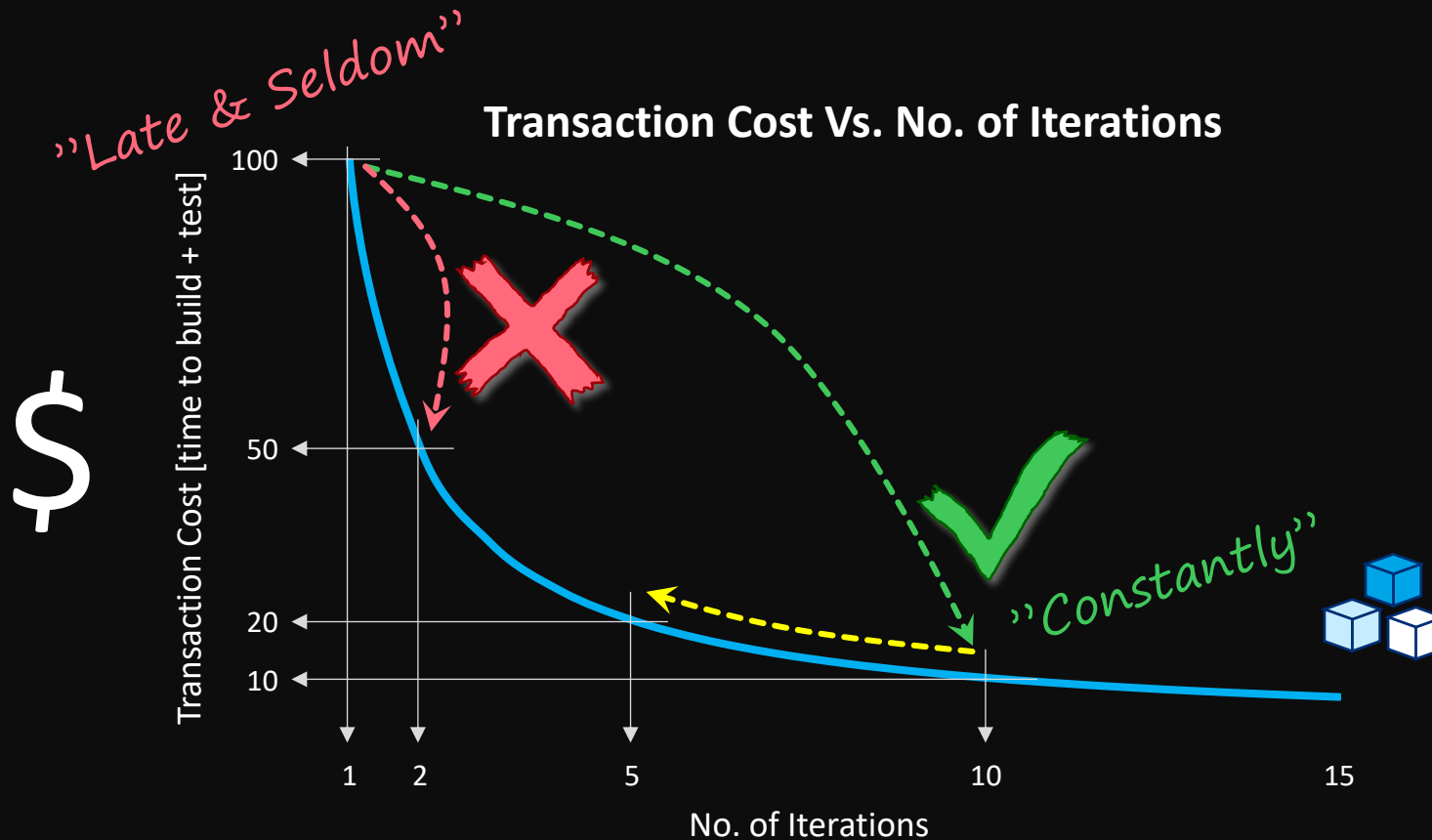- Avg. flow efficiency 34% "Touch / Elapse"

- WIP Constraints is **KEY**

Oct 2, 2024   Copyright © 2017-2024 Christer Lundh
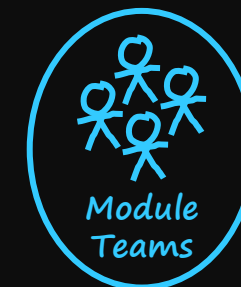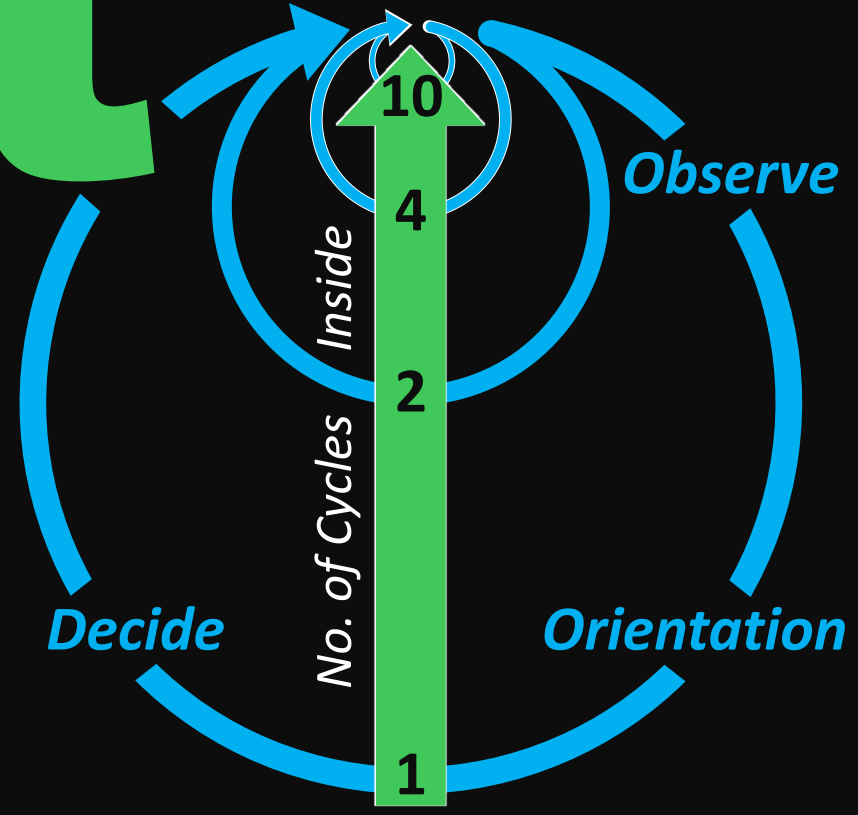
Image. John Boyd's OODA–loop, as example of efficient feedback loop.

Transaction Cost Drives Total Cost

Transaction Cost Vs. No. of Iterations

''Late & Seldom''

''Constantly''

$

Transaction Cost [time to build + test]

100
50
20
10

No. of Iterations

1   2   5   10   15

Don't try to half (1/2) the feedback cycle time.

Do challenge your teams, targeting feedback cycle time of 1/10. Run multiply iterations not to miss out.

Initially feedback-cycle-time overruns will happen. 2x overrun is anyway 5x faster, as long as the team learns. Teams train and improve.

''10x No. of iterations → Learning 10x faster → Improving 10x faster''

AUFERO

1. Define **direction of travel** (vector).
2. **Teams** to quantify, break down and **close gaps through testing.**
3. Make the **flow** and state-of-occupancy **of gaps visible**.
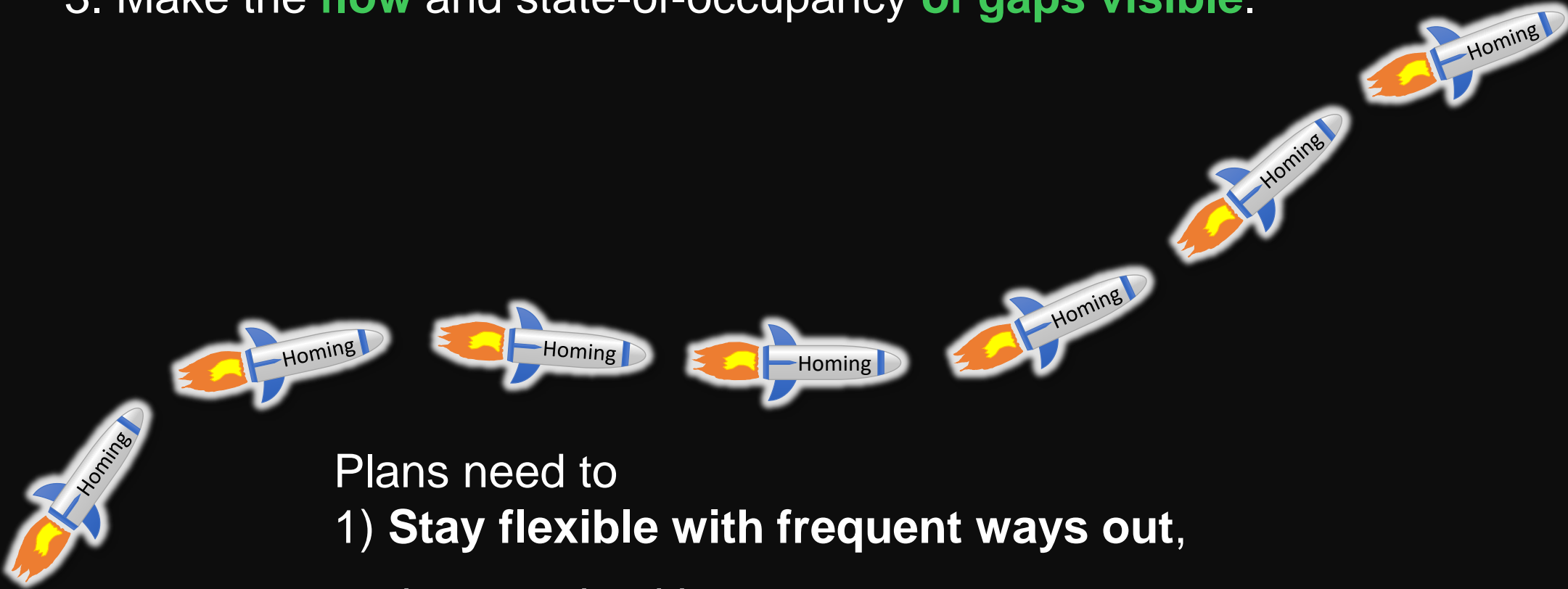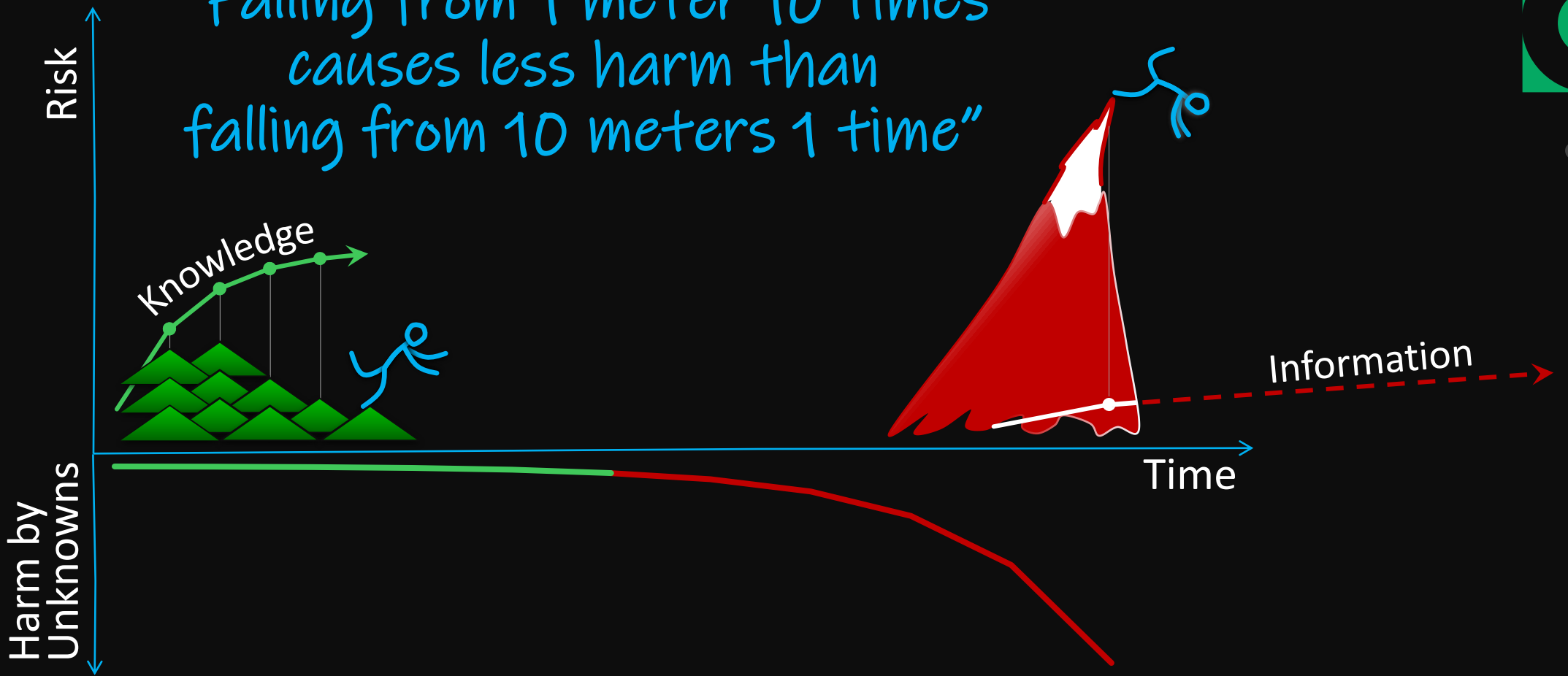
Plans need to
1) **Stay flexible with frequent ways out,**

and counterintuitive
2) **Be very short term, in order to properly capture the long term.**

Nassim Taleb, Antifragile

AUFERO

Development Follow More a Power Law Distribution

Percentage Mean Cost Overrun

Category	Overrun
Solar power	1%
Energy transmission	8%
Wind power	13%
Pipelines	14%
Roads	16%
Fossil thermal power	16%
Water	20%
Bridges	26%
Mining	27%
Hospitals, health	29%
Ports	32%
Oil & gas	34%
Tunnels	37%
Airports	39%
Rail	39%
Bus rapid transit	40%
Defense	53%
Aerospace	60%
Buildings	62%
Nonhydroelectric dams	71%
IT	73%
Hydroelectric dams	75%
Nuclear power	120%
Olympic Games	157%
Nuclear storage	238%

Better to run a network of XS sub-system projects in parallel
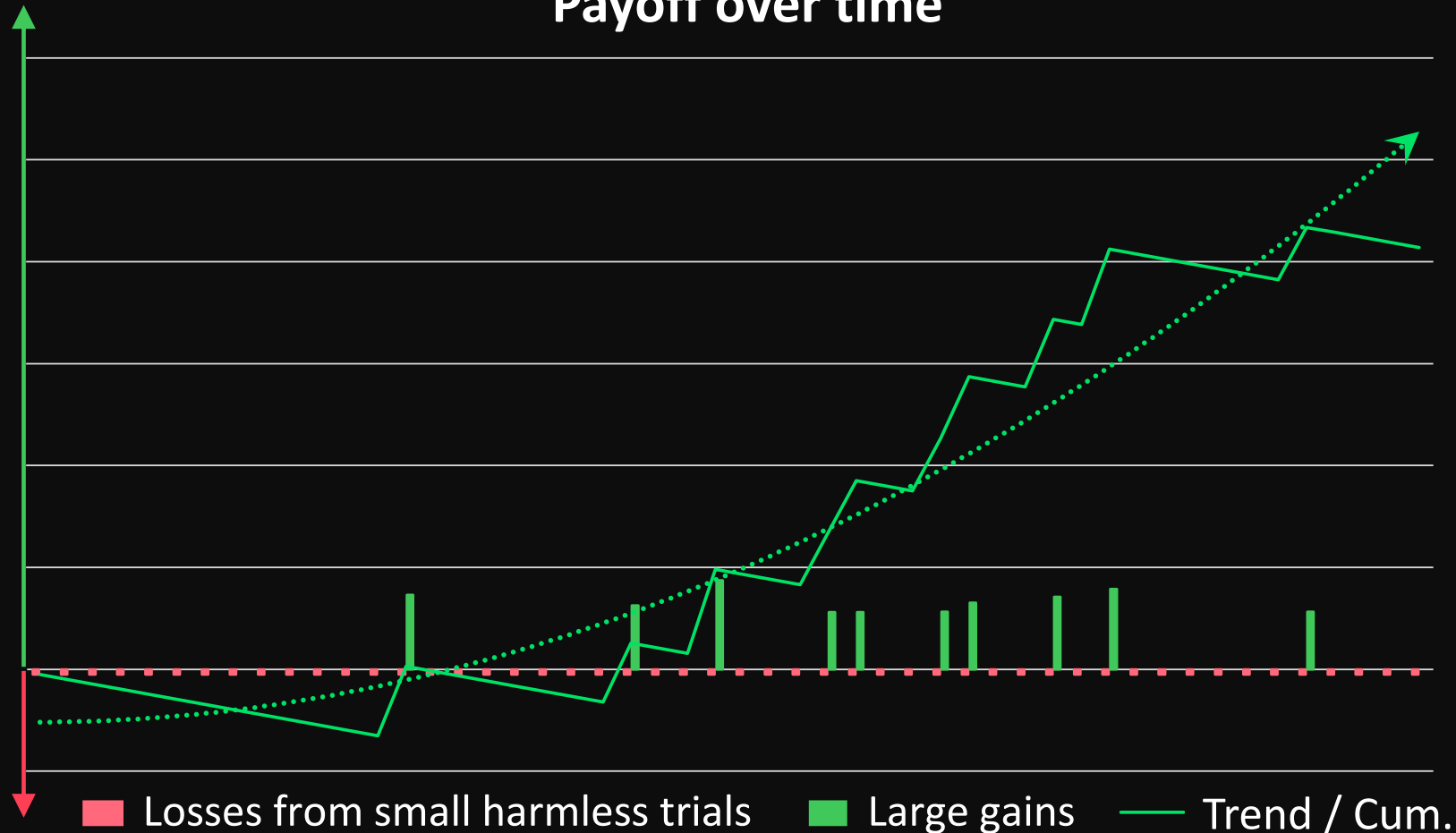
Power Law Distribution

Source. Bent Flyberg, author of *How Big Things Get Done*

AUFERO

'Trials with Small Errors' the Essence of Set-Based Design*

Payoff over time

- Small frequent and harmless failures, but **Big Infrequent Success!**

- **Trial with small errors** work because you're rational and keep what you found is better than we had before.

- **CREATE OPTIONS**, keep all upsides and unaffected by all small downsides.

Legend:
- ▬ Losses from small harmless trials
- ▬ Large gains
- — Trend / Cum.

*Set-Based Design; explores alternative sets of design decisions. Contrary to Point-Based, that makes design decision based on one solution.

Three Fundamentals

Joint Mission

1. **Mission-type Tactics** – **PULL**

   Joint Mission

   – *Customer's job-to-be-done*
   – *"Commander's" **INTENT** (Direction)*

Homing

2. **RAPID PROBLEM SOLVING** – Standard Work
   Using Targeting-Tests-Technique

   Intuitive Skills & Direction

   – *Gap (Targeting)*
   – *Homing through small trials – Set-based (Tests)*

Customer Need (demand) → Finishing off started Work Products (object) → **Customer Value (cash in)**

3. Visible **CONTINUOUS FLOW**

   Facilitate & Trust

   – *The teams' tactics for missions*
   – *Constrain the teams' WIP*

Oct 2, 2024

AUFERO

Christer Lundh
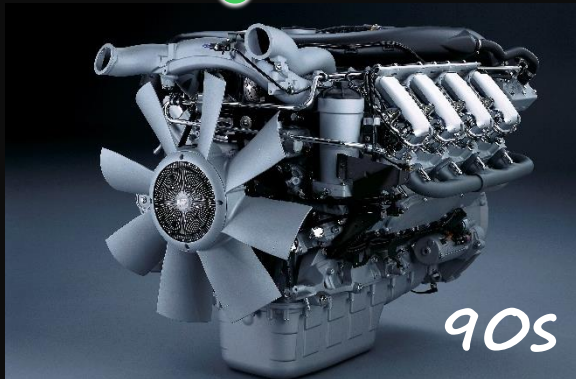
Funder & Owner of AUFERO AB

Senior leader consultant.
Led large business transformations, and product, process and team development for more than 25 years.
Led a Lean start-up from start to its growth take-off.
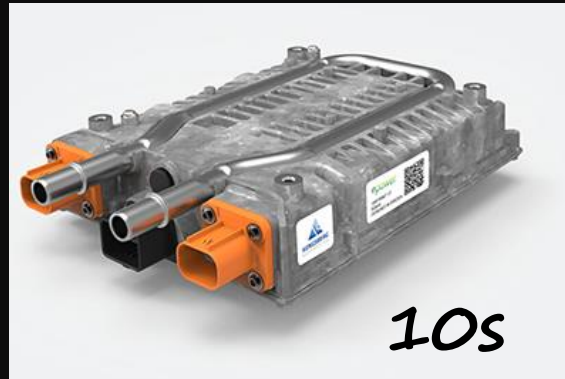Works embedded, provides transformational and servant leadership to business executives and teams.
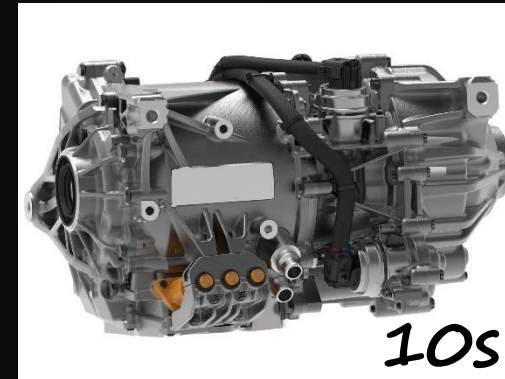
Lean and Agile Development
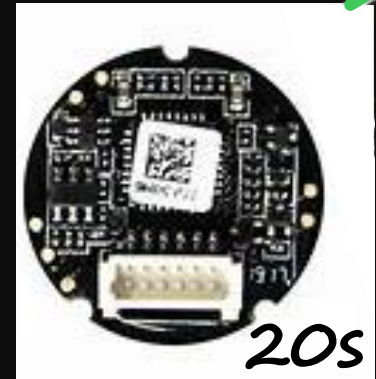
Internal Combustion Engines	Gear shifters	Power Electronics	Electric Motors	IoT Sensor
90s	00s	10s	10s	20s