Digital transformation

Erwin Tauber

July 2023

New customers' experience

- Customers' experience
  - Starbucks … the third place
  - Eataly … theater

- Customer + data
  - Direct and indirect network effect
  - Old fashion acquisition cost and rentention rate
  - Create an initial emotional spark (big bang)

New customers' experience

- Solve the pain points
  - Doodle
  - Tricount
  - …

« Customers don't want drills they want holes »

« Customers' inspired growth, suppliers enabled innovation »

New customers’ experience

- Product as service
  - Access vs, ownership
  - Razor and blades

  - Moving to a platform means
    - Sharing information and resources
    - Competing
    - Collaborating
    - Co-evolving
    - Coopeting

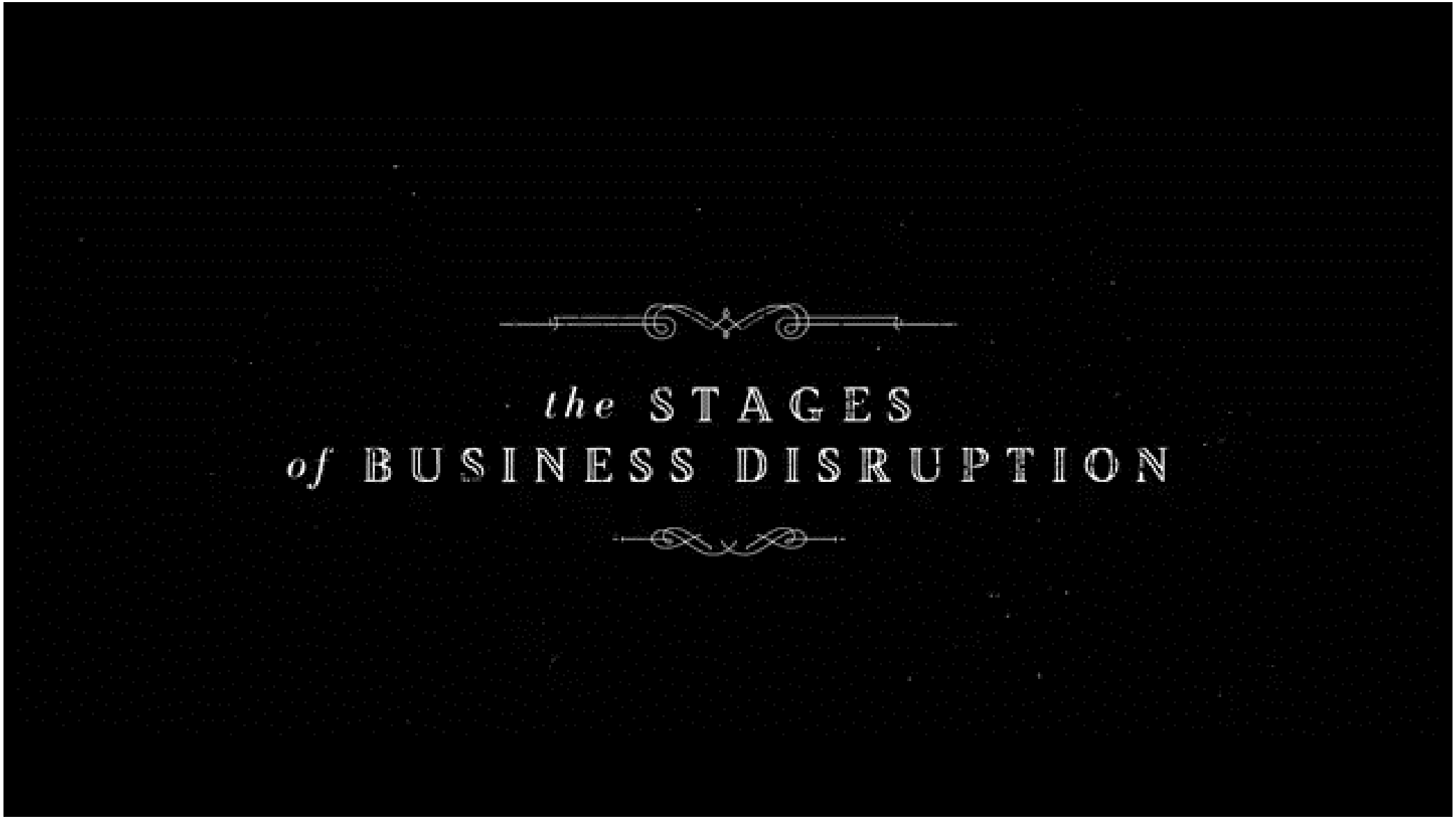
New customers’ experience

- What’s the consequence ?
  - How do you assess a company’s value ?
  - What are the critical assets ? Where do you find them in the balance sheet ?

- Loosing money 9 years on 11
- +/-5 G$ revenue and 5,5 G$ costs
- Market value 37 G$
- Bought for 44 G$ LBO
  - 13 G$ debt (7 major banks)
    - 1 G$ debt and interest / year (before 51 M$)
- Revenues
  - 91 % advertising
  - 9 % data licensing (twitter analytics, Twitter blue)

Twitter Inc 53.70 +0.00 (+0.00%)

Period Ending:	30/06	31/03	31/12	30/09
Total Revenue	1176.66	1200.98	-	1283.82
Revenue	1176.66	1200.98	-	1283.82
Other Revenue, Total	-	-	-	-
Cost of Revenue, Total	540.68	507.45	-	484.48
Gross Profit	635.98	693.53	-	799.34
Total Operating Expenses	1520.42	1328.82	-	1260.66
Selling/General/Admin. Expenses, Total	524.89	449.67	512.87	451.93
Research & Development	454.86	371.7	-	324.25
Depreciation / Amortization	164.69	150.68	-	122.65
Interest Expense (Income) - Net Operating	-23.34	-15.44	-	-13.28
Unusual Expense (Income)	-	-	-23.8	740.8
Other Operating Expenses, Total	-141.35	-135.24	379.49	-109.36
Operating Income	-343.76	-127.83	-	23.15


the STAGES
of BUSINESS DISRUPTION

Digital transformation

« It’s about having the willingness to change before the case for change becomes desperately obvious »

« build your future, do not defend the past »

« Every business is successful until it’s not »

New organization and new culture

Company culture vs. Tools

CDO (seniority & change management – Comex level) vs. CIO (IT knowledge)

CDO job description (Linkedin talent)

- **Sample chief digital officer job description**
- We have an **exciting** opportunity for an experienced leader who has a proven track record of digital transformation. The ideal candidate will have the **ability to influence** at every level, imparting their digital knowledge and skills in a constructive, empowering, and **collaborative** way. **Working closely with the CEO and CIO**, the chief digital officer **will be a driving force** in our organization's digital transformation.
- **Objectives of this role**
- Drive digital innovation and serve as a **change agent throughout the organization**
- Set and implement digital strategy by working with cross-functional partners to map and transition analog processes to digital ones
- Be an evangelist, championing the use of digital technology and practices to engender a digital mindset from the top down
- Ensure collaboration, knowledge sharing, and digital best practices among partners and colleagues to help establish a robust digital ecosystem
- Measure ROI for digital projects, fine-tuning approaches as needed to ensure that we're investing in the appropriate tools and resources
- **Responsibilities**
- Develop a clear and compelling **digital strategy for the company's future**
- **Ensure that digital initiatives are fully integrated with the strategic process**, **including leadership commitment** and resource allocation
- Work with teams across the business to generate innovative digital solutions for products, services, processes, customer experiences, marketing channels, and business models
- Own and monitor the digital-innovation project portfolio
- Build, manage, and continue to grow a digital-innovation ecosystem, both internal and external
- Identify new tools (AI, digital, CRM) that can support and enhance our solutions
- **Work closely with Human Resources to attract and retain top talent, and to build digital capabilities across the company**

CIO / CTO job description (Indeed)

The Chief Information Officer, or Chief Technology Officer, is responsible for ensuring the **use of modern IT software and tec**
streamline business operations. Their duties include communicating between other company Executives and lower-level IT p
reviewing current IT systems and establishing relationships with technology companies.

Chief Information Officer duties and responsibilities

The Chief Information Officers is responsible for **overseeing a company's IT needs**, which includes managing and implement
to support the organization's goals. They may have the following day-to-day duties:

- Working with upper-level IT staff to develop and implement department goals
- **Staying abreast of emerging technologies that can improve IT department performance and increase company profits**
- Managing IT personnel
- Creating and implementing IT policies, protocols and standards
- Working with upper management and senior IT staff to develop the IT department budget
- Ensuring that IT department strategies and processes provide appropriate support to company-wide goals
- Overseeing contract negotiations with IT vendors, contractors and service providers
- **Communicating with other executives regarding costs, value and risk-potential of new IT projects**

CIO / CTO job description (TalentLyft)

We are looking for a CIO (Chief Information Officer) to join our team!
As a CIO, you will be responsible **for planning, implementing, managing and overseeing the overall use of Information Technologies at our company.**
As a CIO, you have to have a strong background in information technologies, and they have to be your big passion.

Chief Information Officer (CIO) job description: Job duties and responsibilities

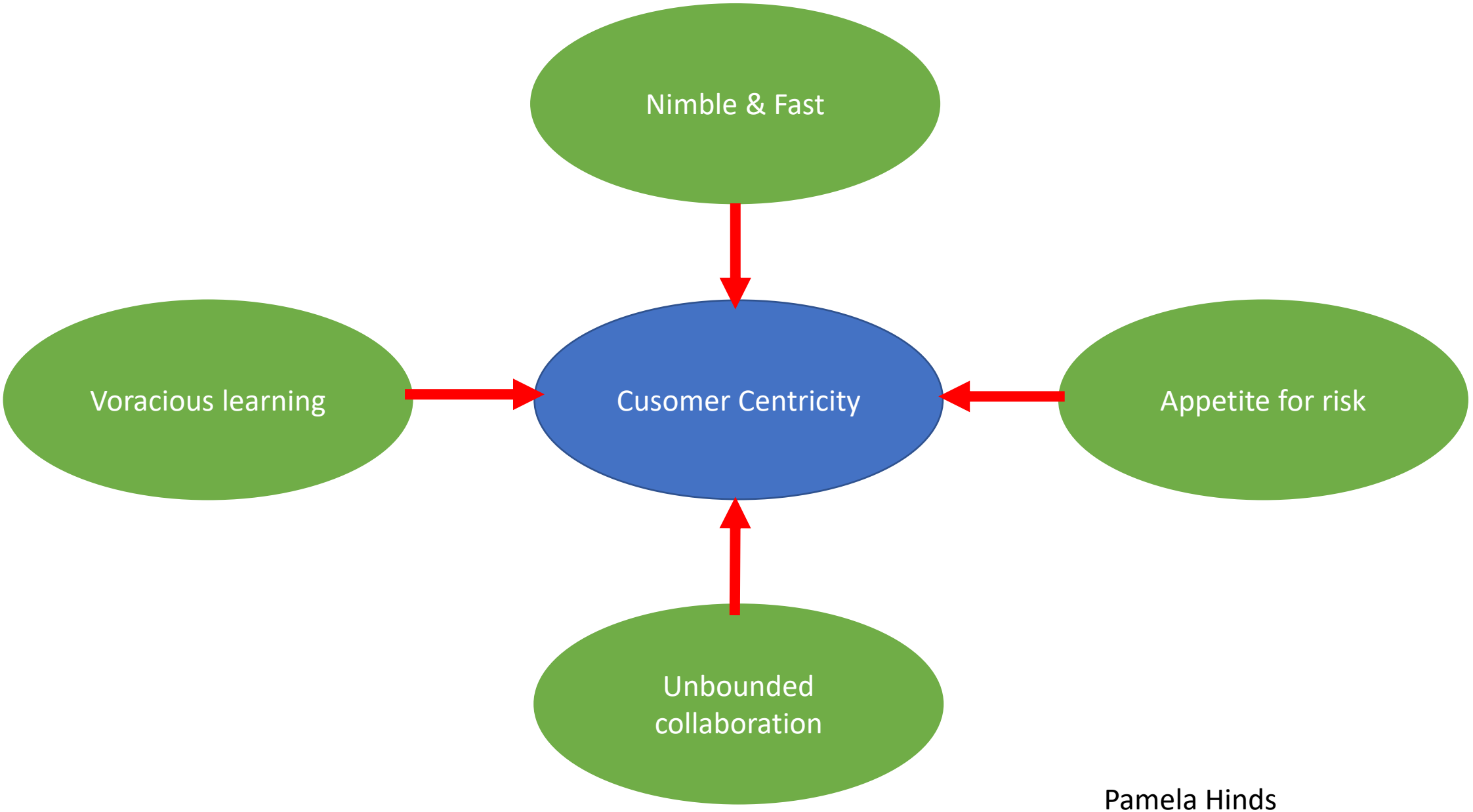
- **Develop strategies for our IT deparment**
- Implement new strtaegies
- Always work to optimize existing strategies
- **Set IT department's KPIs**
- Measure KPIs on a regular basis
- **Hire new key roles for your department**
- Review and approve department purchases
- Set department budgets
- Plan and oversee your department's projects

Background

- CIO :
  - Bachelor’s degree in computer science, computer or software engineering, or information systems
  - MSc/MA is a big plus
- CDO :
  - Advanced degree in business (MBA), technology, or engineering

Triple A

- Agility
- Adaptability/Anticipation
- Alignment



Pamela Hinds

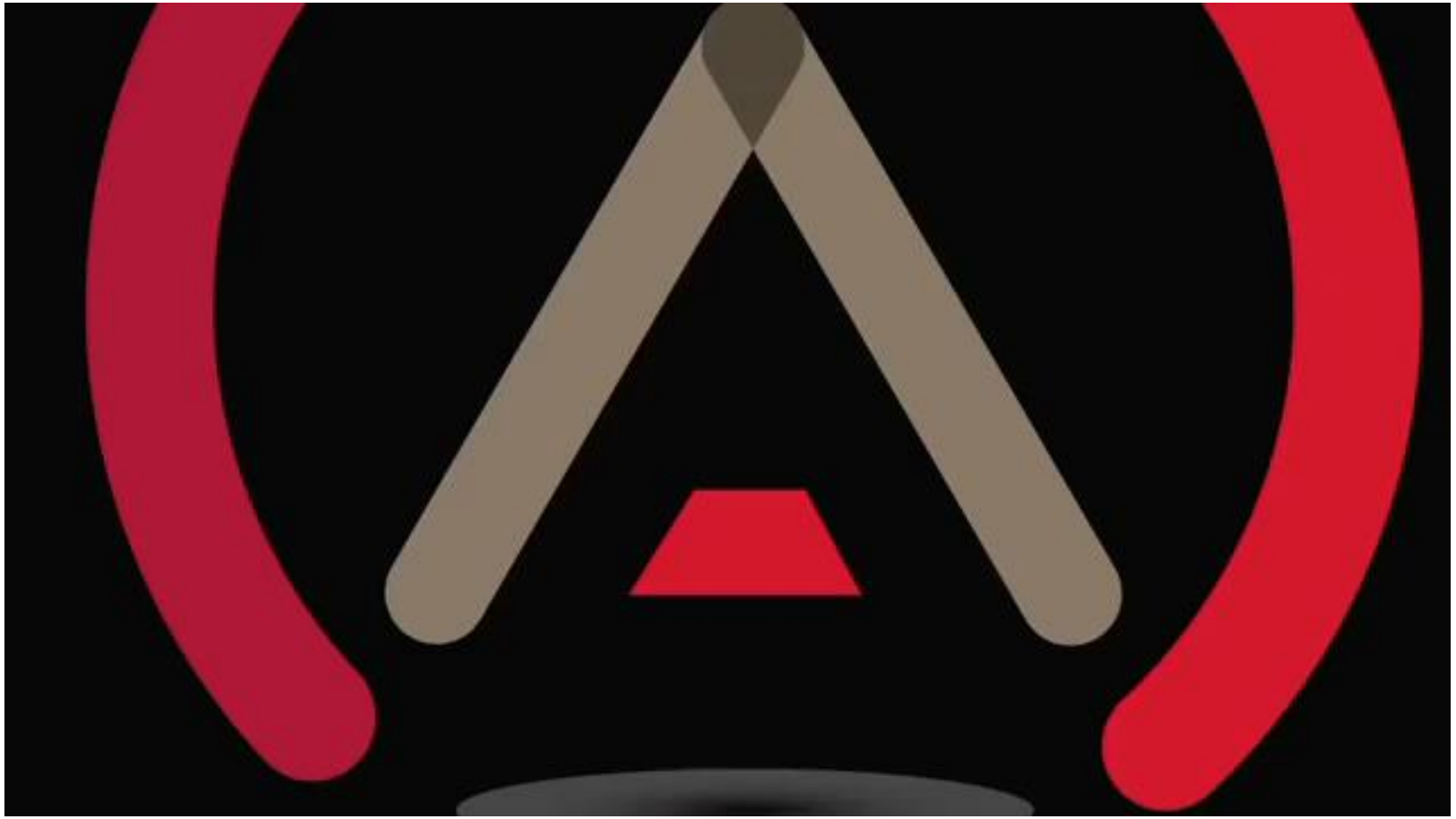
New value chain

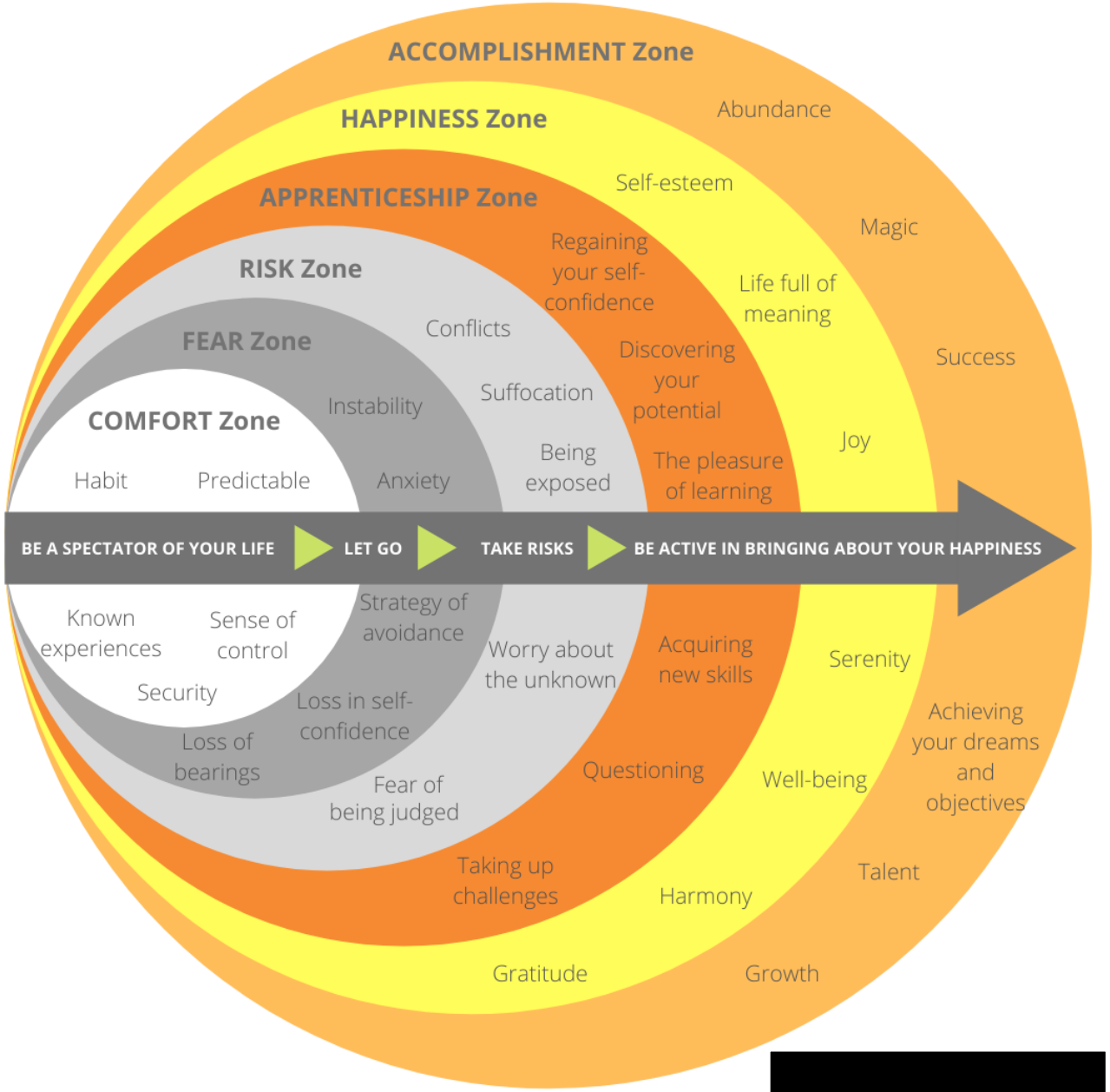
- Industry 4.0
  - Digital twins
  - IoT
  - …

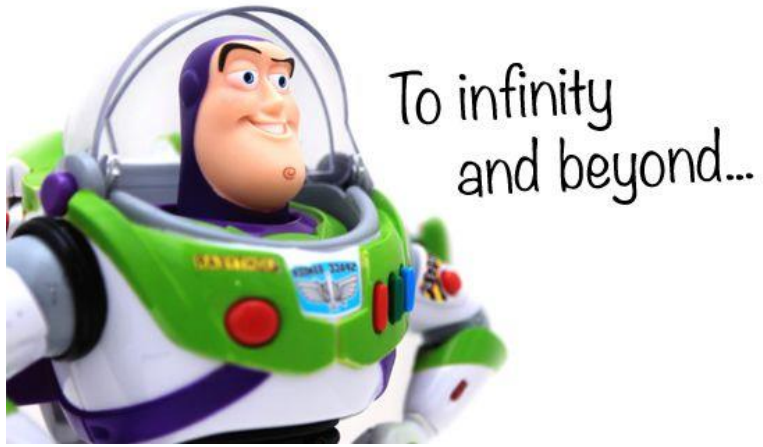
- Technology embedded in every activity and process
- The strategic question being :
  - New way of creating value or of extracting value ?

https://www.dhl.com/global-en/home/insights-and-innovation/insights/logistics-trend-radar.html

Cybersecurity




ACCOMPLISHMENT Zone
HAPPINESS Zone
APPRENTICESHIP Zone
RISK Zone
FEAR Zone
COMFORT Zone
Abundance
Self-esteem
Magic
Regaining your self-confidence
Life full of meaning
Conflicts
Success
Discovering your potential
Suffocation
Instability
Joy
Being exposed
The pleasure of learning
Habit
Predictable
Anxiety
BE A SPECTATOR OF YOUR LIFE
LET GO
TAKE RISKS
BE ACTIVE IN BRINGING ABOUT YOUR HAPPINESS
Strategy of avoidance
Known experiences
Sense of control
Worry about the unknown
Acquiring new skills
Serenity
Security
Loss in self-confidence
Achieving your dreams and objectives
Loss of bearings
Questioning
Well-being
Fear of being judged
Taking up challenges
Talent
Harmony
Gratitude
Growth


To infinity
and beyond...

Tactics or strategy

- E-initiatives, even if numerous, don’t make a digital transformation strategy
- The digital transformation is *per se* embeded in the overall strategy and can be its corner stone

- 3 usual ways of doing so called digital transformation
  - Agile spin-offs
  - Experiments
  - Leverage technology to cut cost and/or improve efficiency

Digital thinking
Think big, start small and scale fast

DIGITAL TRANSFORMATION STRATEGY

7 ESSENTIAL STEPS TO DRIVE DX SUCCESS IN THE ENTERPRISE

01. ALIGN ON THE WHY

Define the business value of digital transformation.

02. PREPARE FOR CULTURE CHANGE

Put humans at the heart of digital transformation.

03. START SMALL BUT STRATEGIC

Jump-start digital transformation with an impactful, measurable initiative.

04. MAP OUT TECHNOLOGY

Choose tech solutions that scale with your long-term strategy.

05. SEEK OUT PARTNERS & EXPERTISE

Do more - and do it faster - with partners that share in your vision.

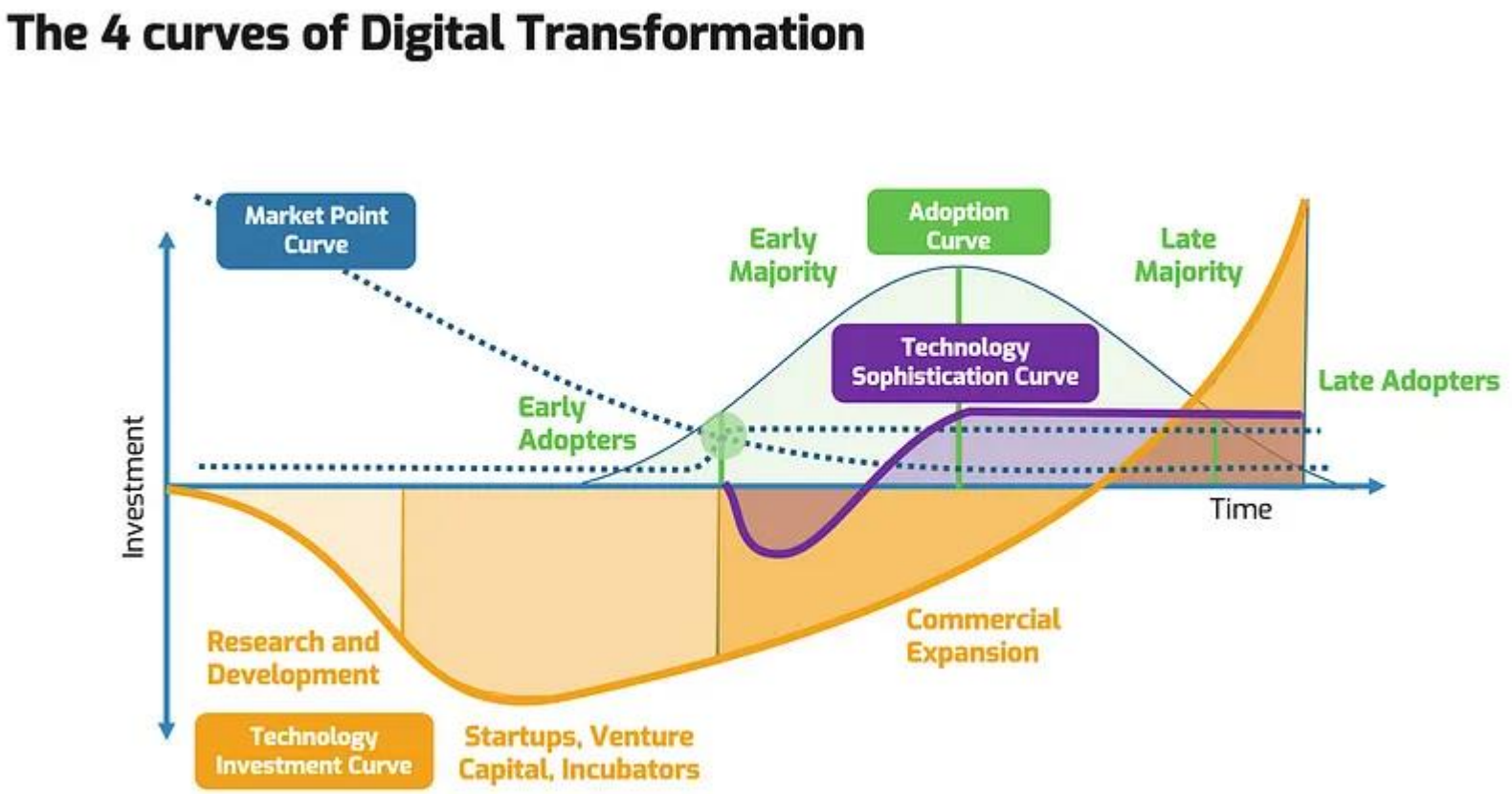
06. GATHER FEEDBACK & REFINE

Be flexible, learn from experience, and adjust accordingly.

07. SCALE & TRANSFORM

New ways to improve will emerge - embrace them!

The challenge … the cash drain



[Benjamin Sywulka]

What is a company made of ?

- The board with the chairman of the board
- The executive committee with the CEO
- The senior management
- The middle management
- The « deep state »

let’s get the buy-in … how are the dots connected ?

What kind of company ?

- Natural born digital company
- Product legacy company
  - With stable or growing margins
  - With declining margins

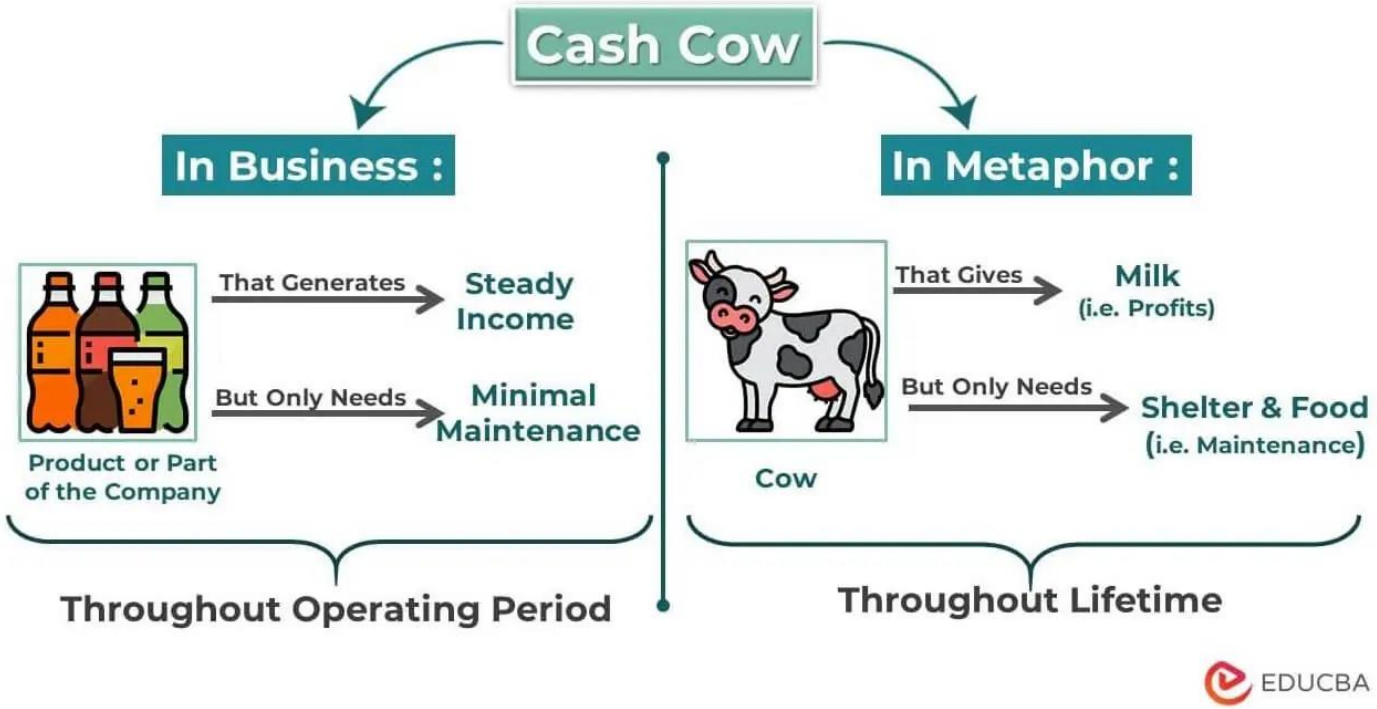
Big bang or incremental changes ?

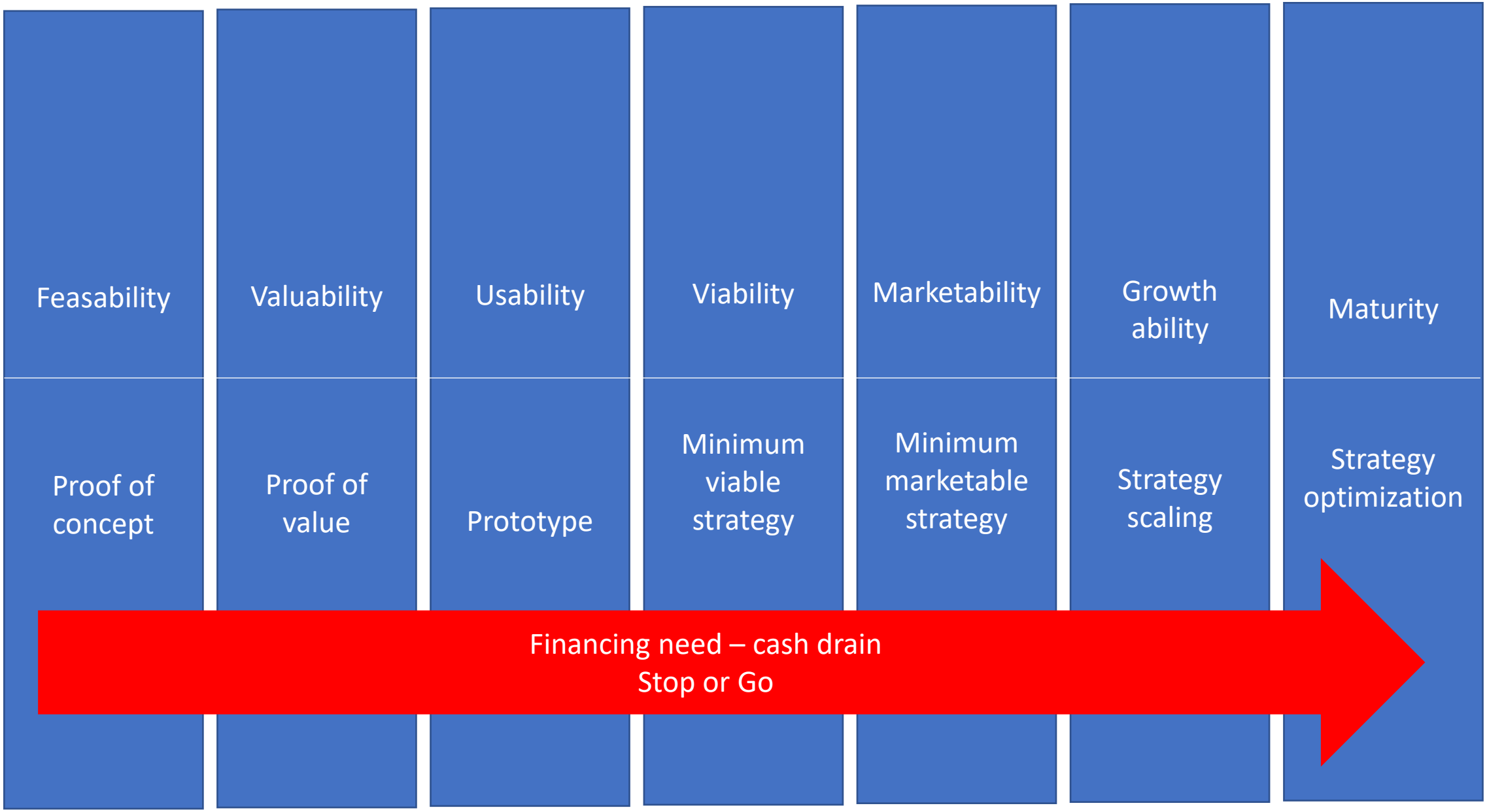
Big bang

- There is no plan B
- Not possible to go back
- Fail fast and learn faster

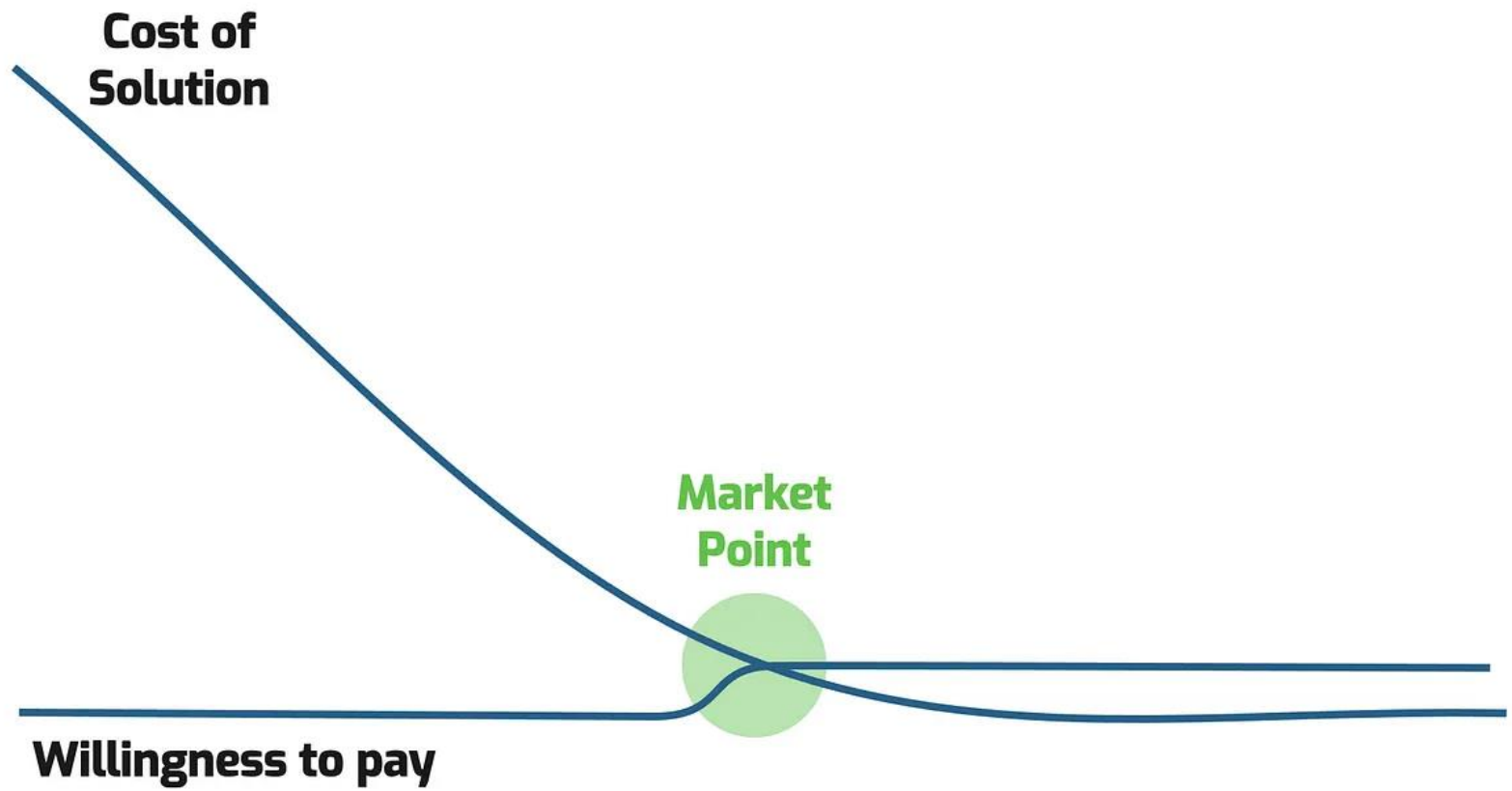
Milking the cash cow

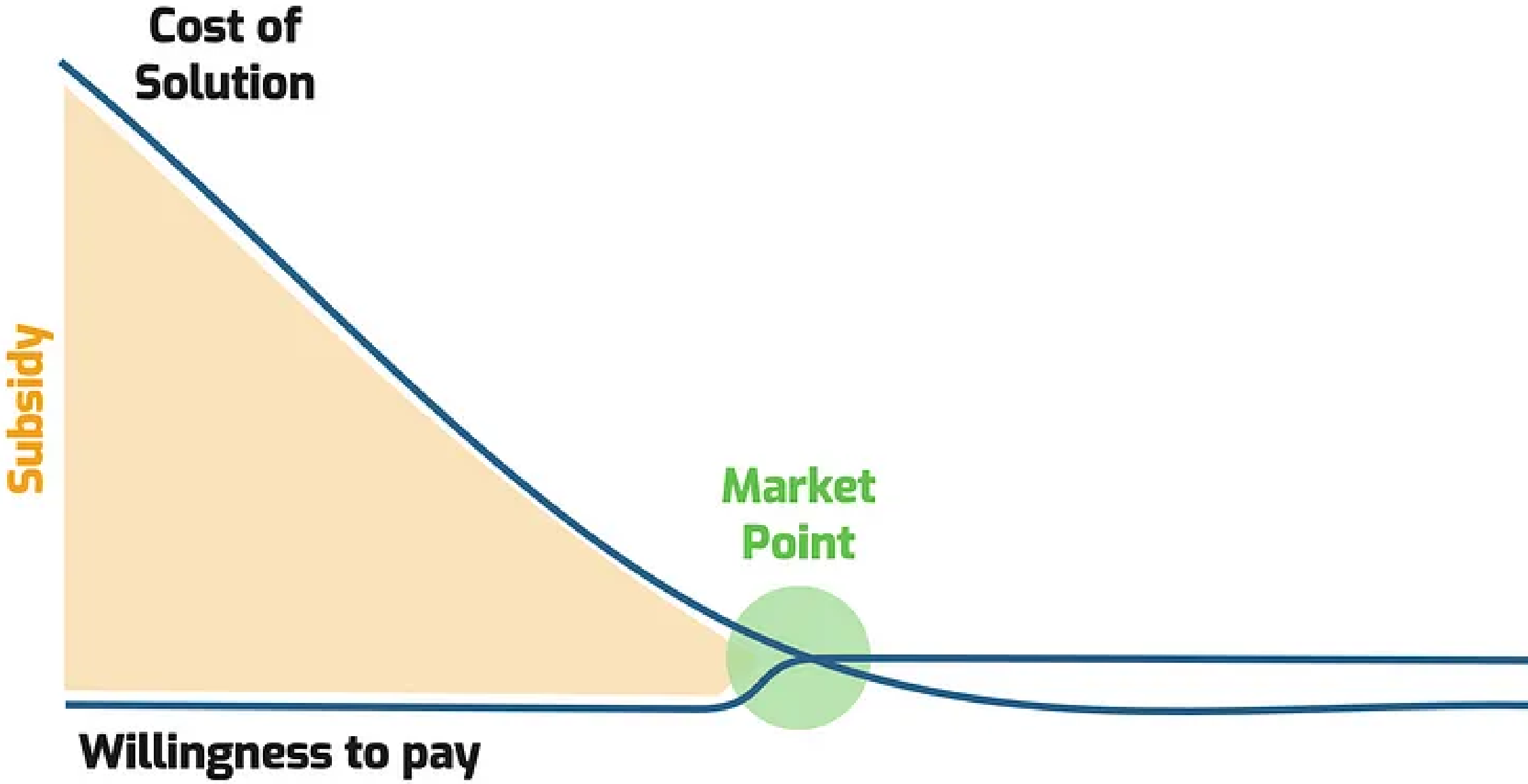
- 2 models co-exist
- No sense of urgency

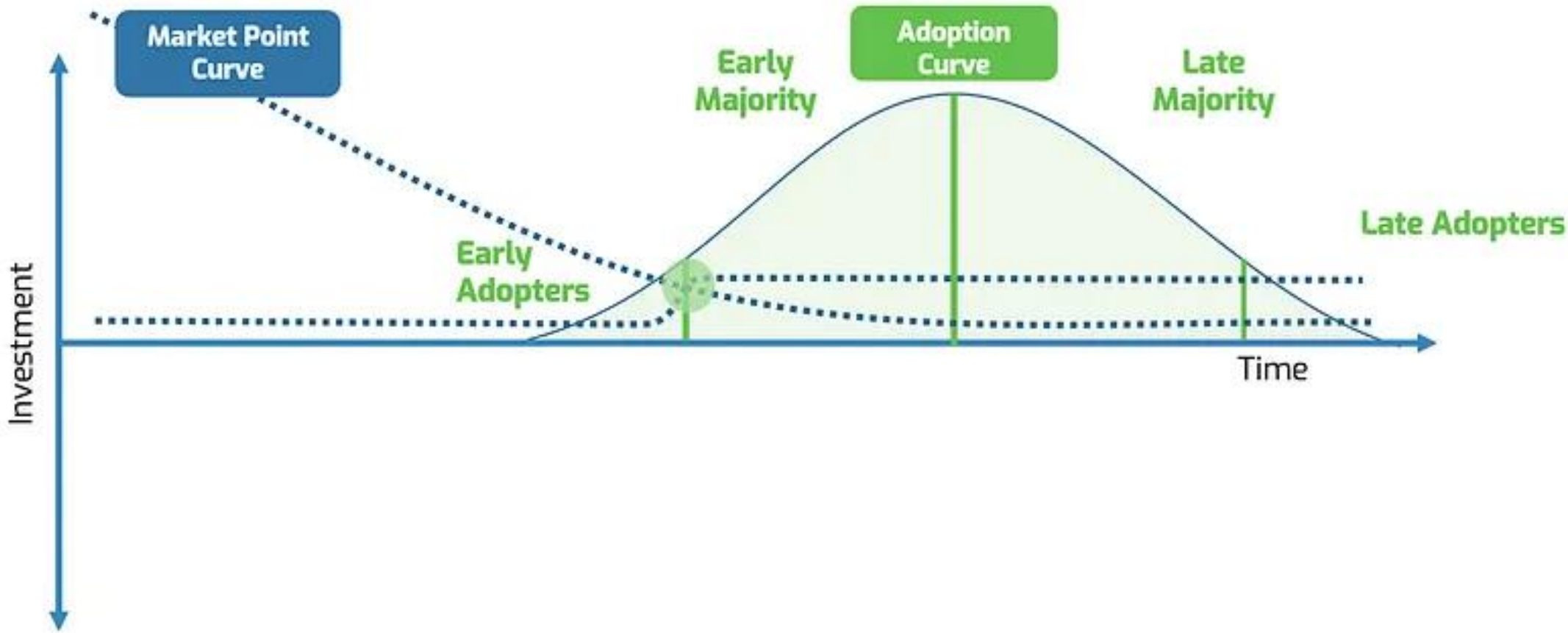


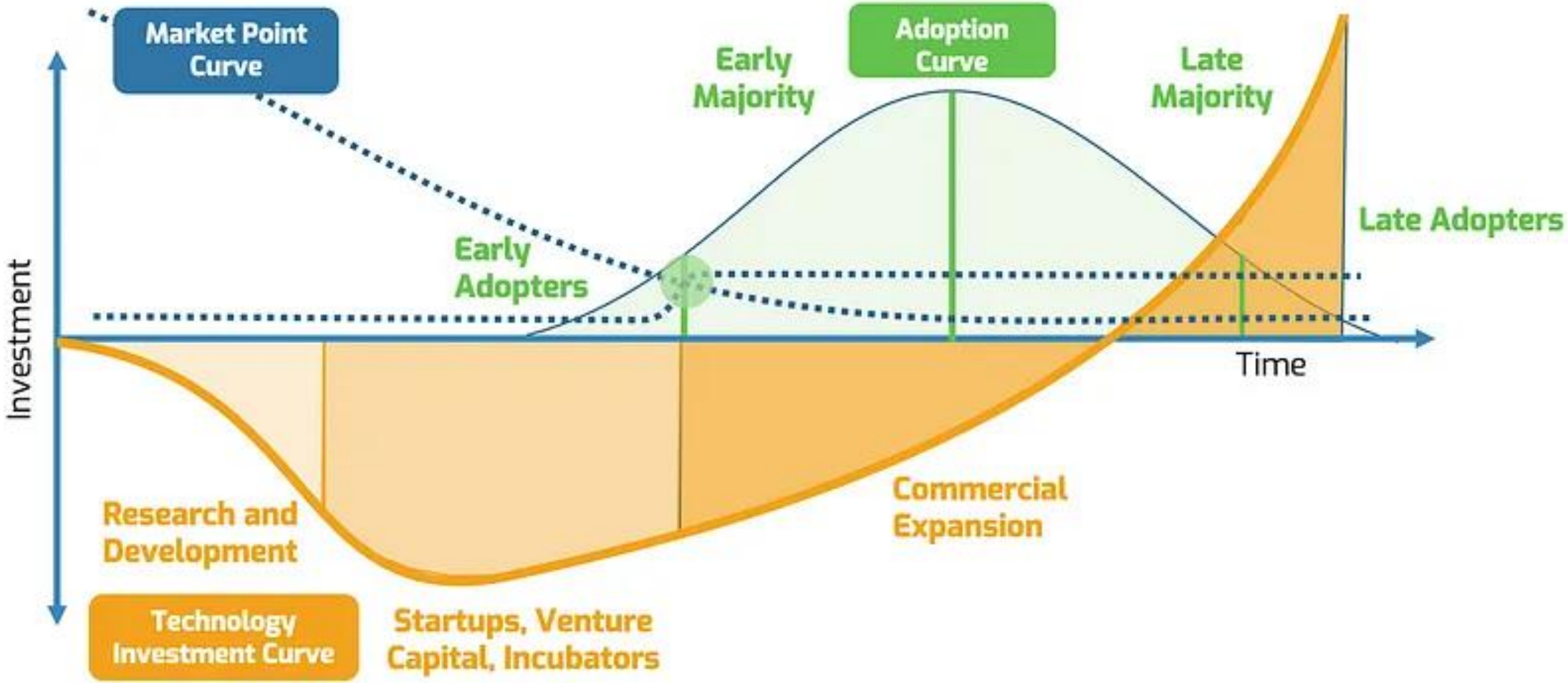

Feasability
Valuability
Usability
Viability
Marketability
Growth ability
Maturity
Proof of concept
Proof of value
Prototype
Minimum viable strategy
Minimum marketable strategy
Strategy scaling
Strategy optimization
Financing need – cash drain
Stop or Go

The Market Point Curve




Cost of Solution
Subsidy
Market Point
Willingness to pay


Market Point Curve
Adoption Curve
Early Majority
Late Majority
Late Adopters
Early Adopters
Investment
Time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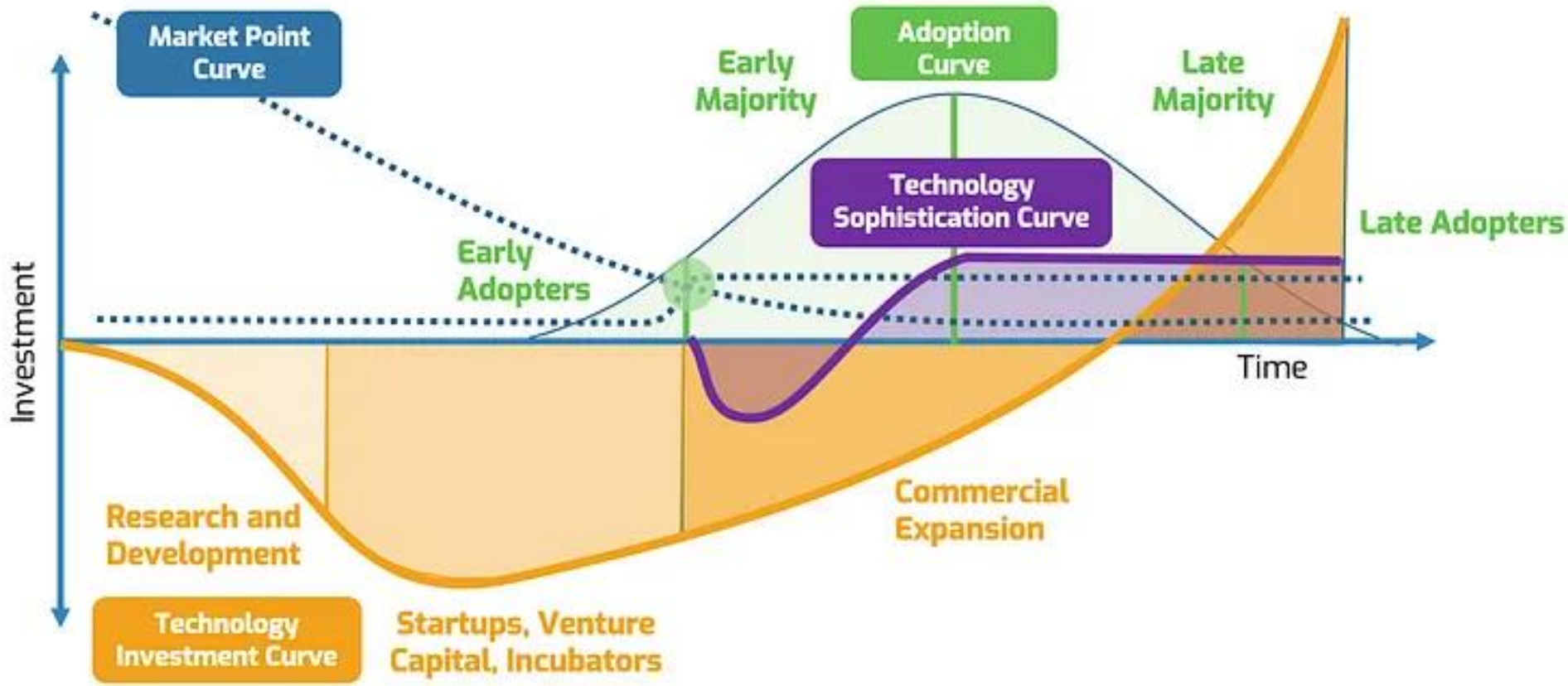
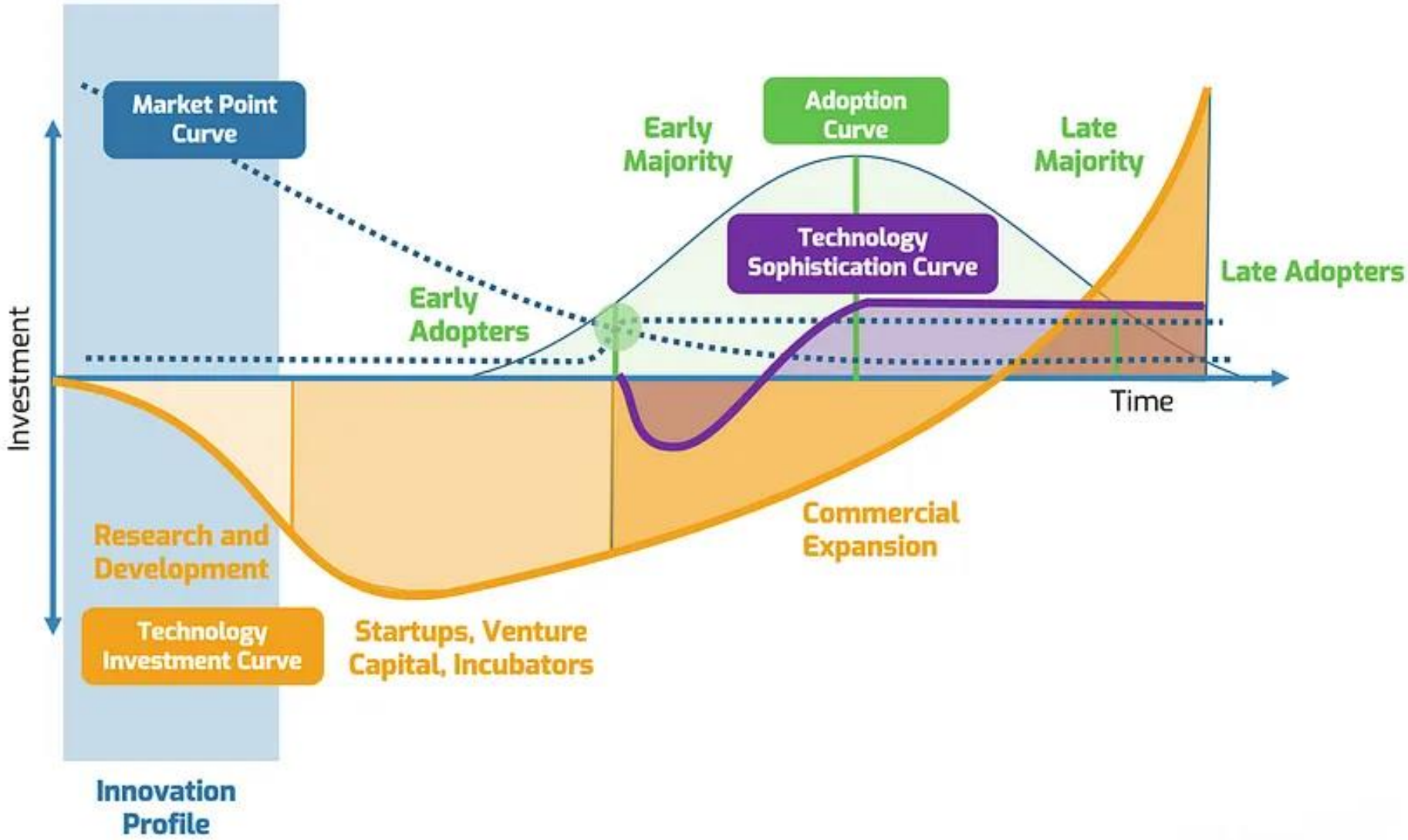
Research and Development
Commercial Expansion
Technology Investment Curve
Startups, Venture Capital, Incubators

The 4 curves of Digital Transformation

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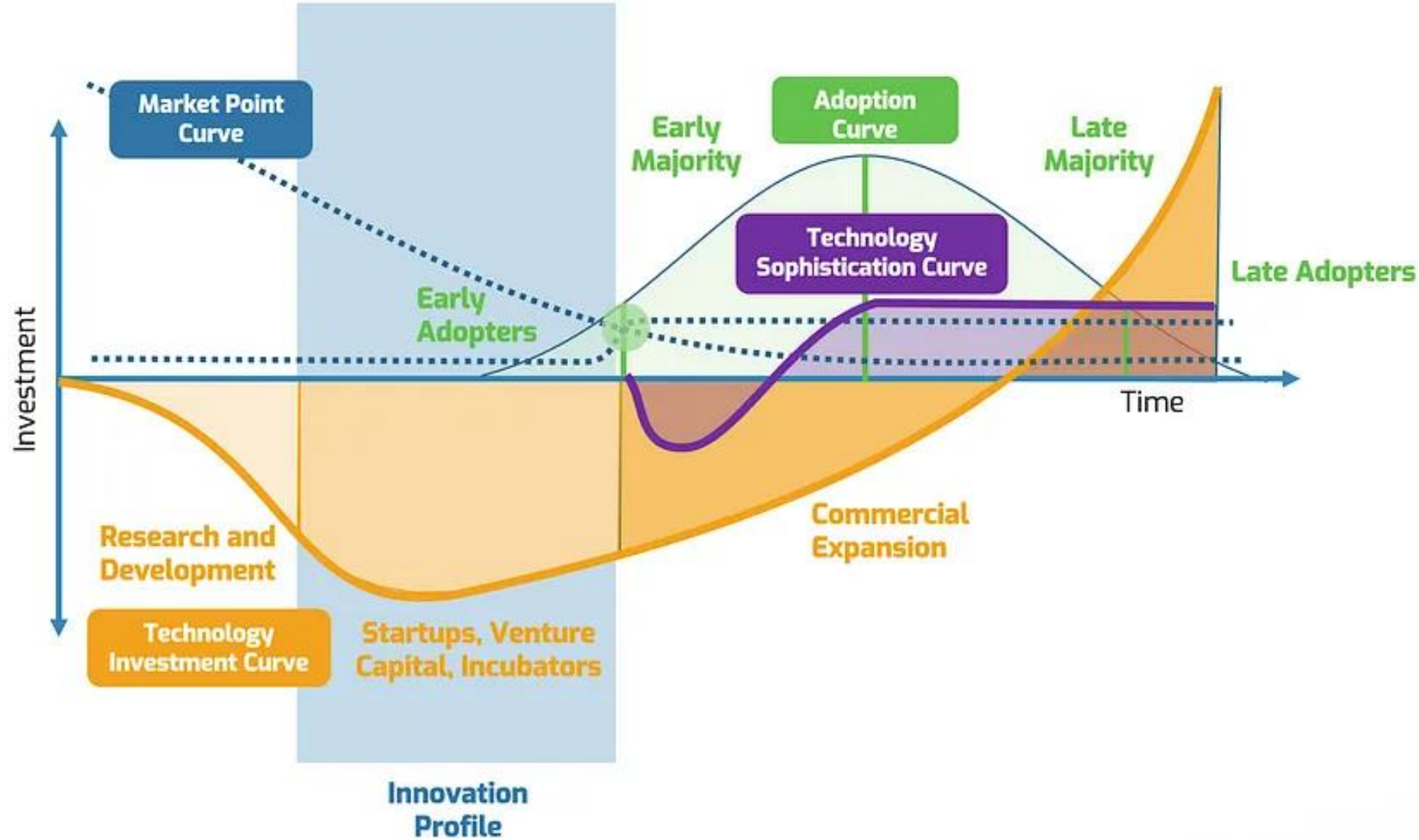
Innovation Profile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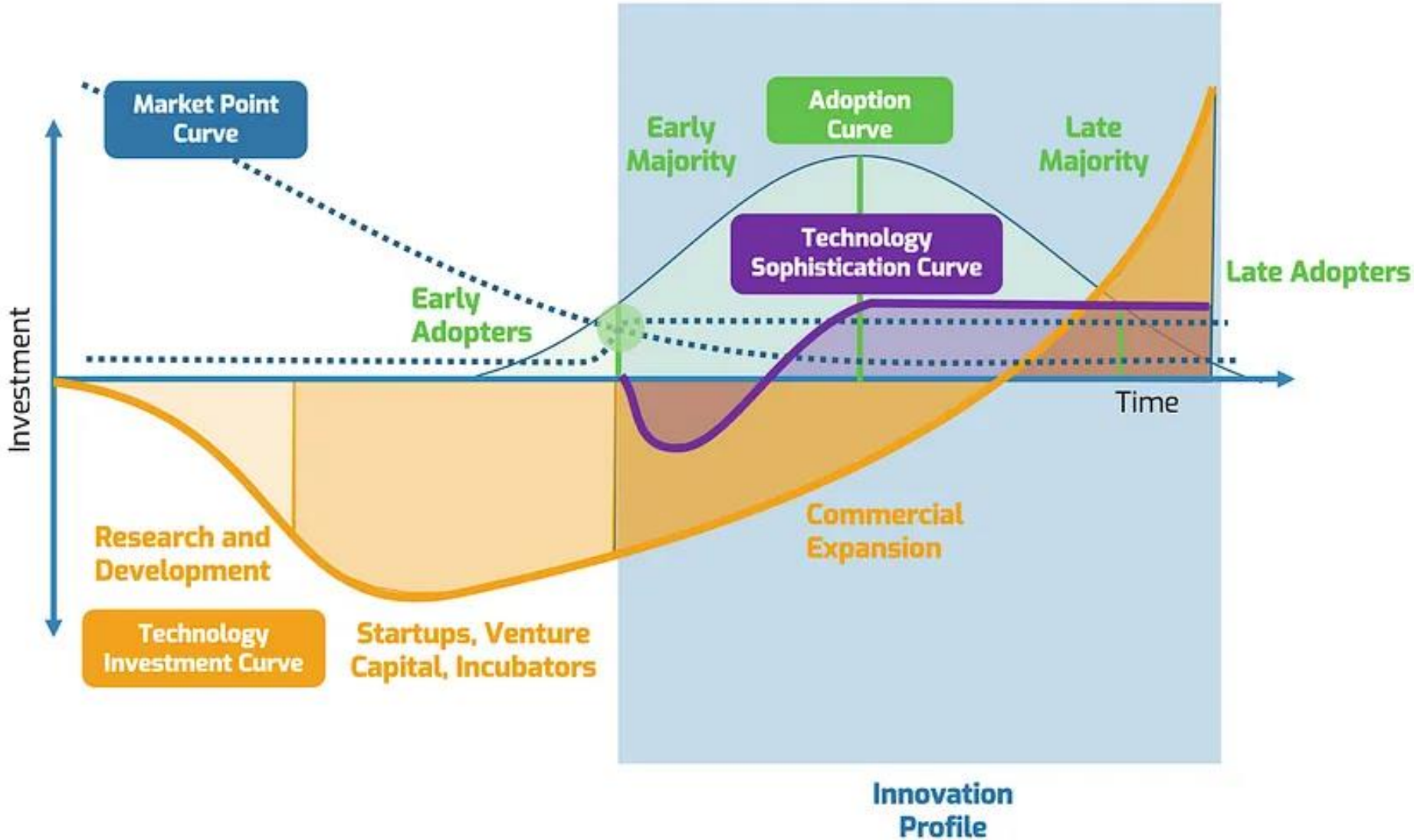
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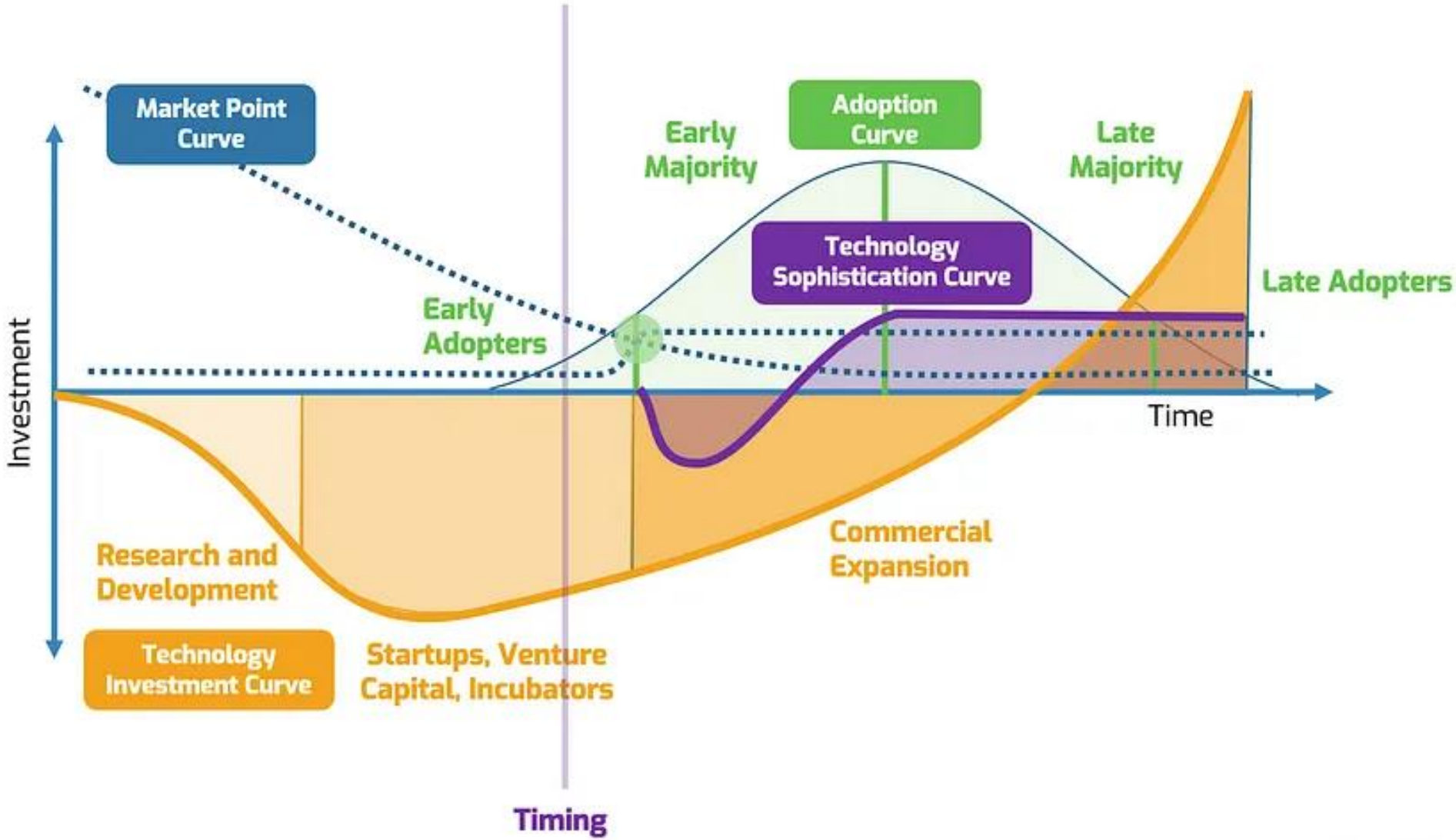
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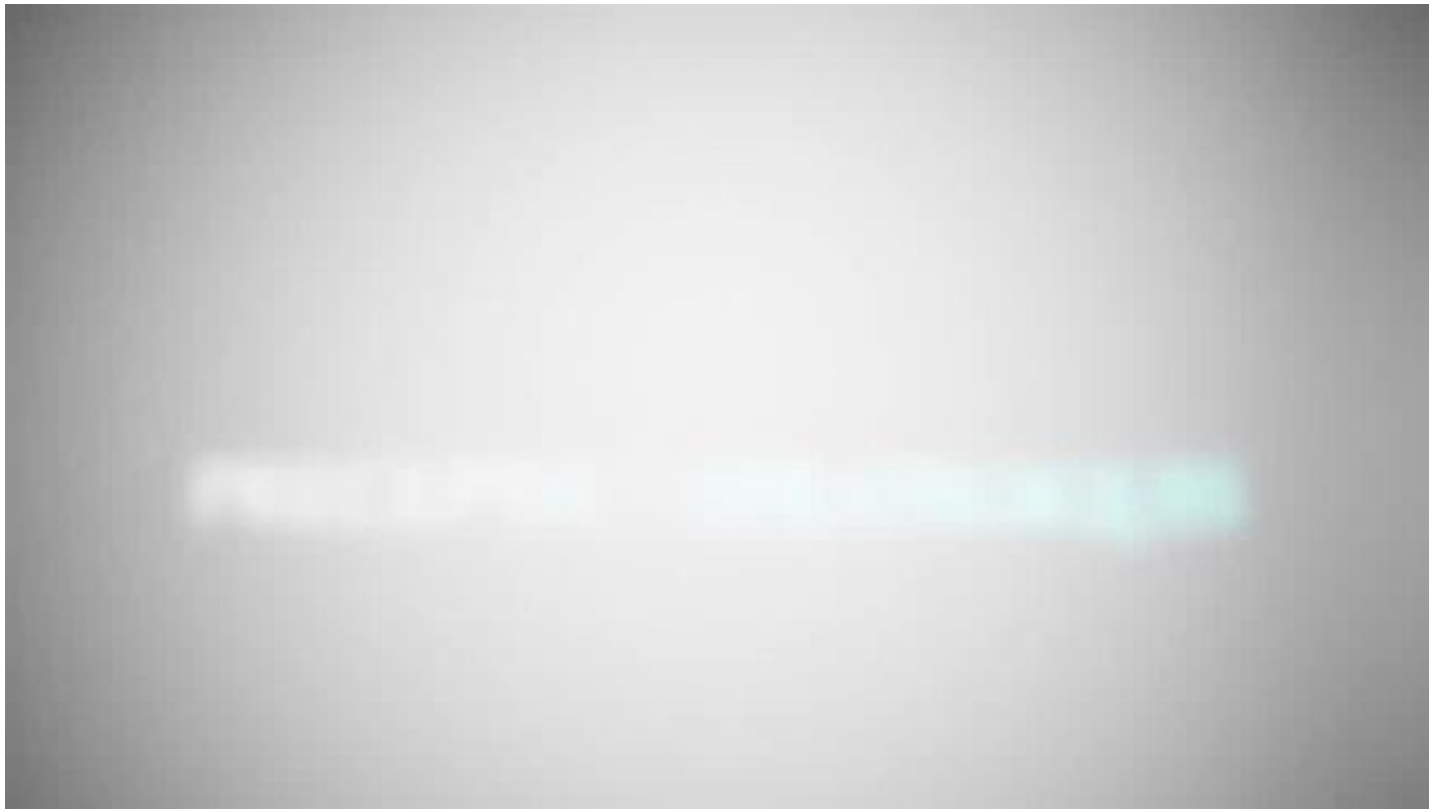
Timing

Innovation stratégique



- https://philippesilberzahn.com/2023/01/16/comment-les-modeles-mentaux-bloquent-l-innovation-dans-un-secteur-le-cas-de-la-maladie-d-alzheimer/

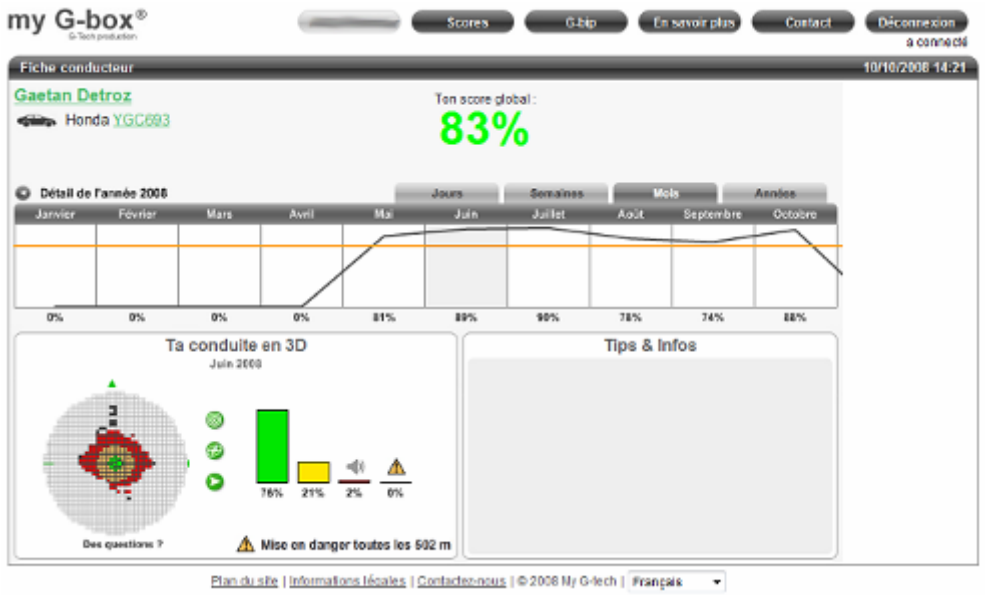
Back in the early days of the 21st century

- Transwide
  - From ill-conceived to bright success
- G-Tech
  - From smart idea to bankrupcy

Projet G-Tech²
SIT 2009

100% 0%

- ? *reduce environmental impact*
- ? *reduce costs*
- ? *reduce risks*



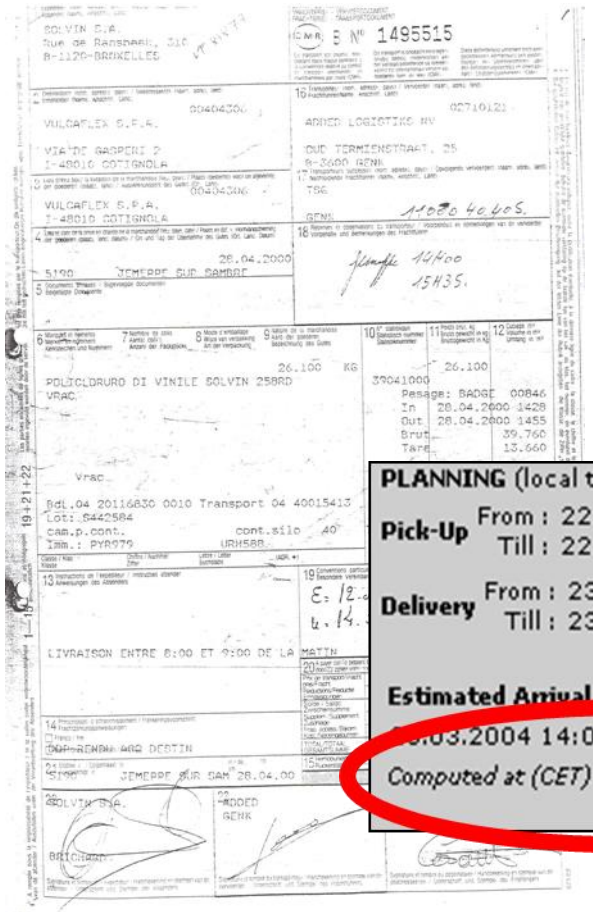

10:15
14°c
Driving eco2
Standard
Avancé
116.3 km
29.8 km/h
6.4 L/100km
7.4 L
Accélération
Changement de ra...
Anticipation
Score général
Distance sans consommation
66/100
29 km
Eco-coaching
A/C
AUTO
START
STOP

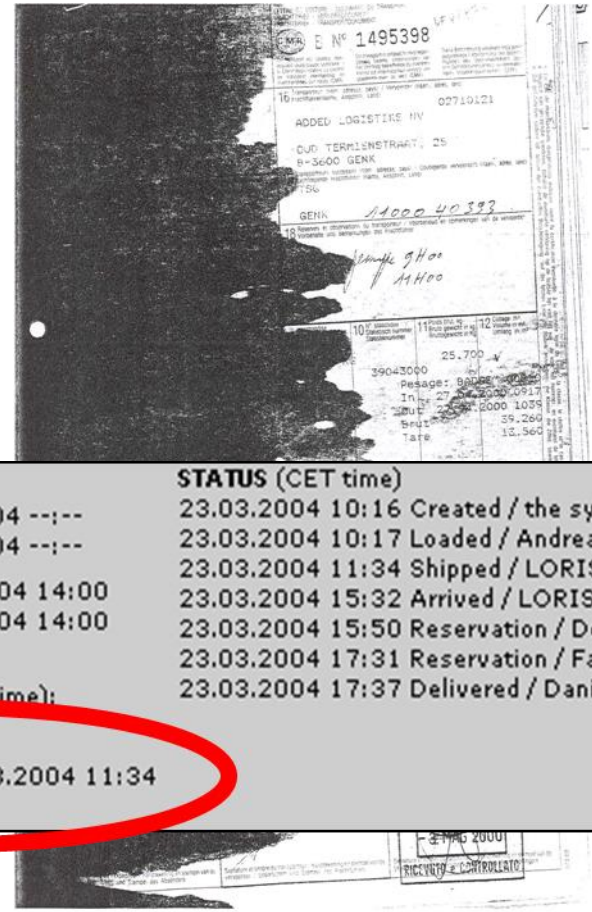
Transwide
a Wolters Kluwer business

Transwide in the early days

transwide
part of alpega

- Bi-directional real-time electronic communication with ALL our logistics providers (even subcontractors)
- All execution data recorded – one database:
  - Shared across all shippers departments (CLS, Legal, etc…)
  - Shared with all our carriers
  - Shared with our customers
- Independent from Logistics providers IT sophistication





PLANNING (local time)

Pick-Up From : 22.03.2004 --:--
Till : 22.03.2004 --:--

Delivery From : 23.03.2004 14:00
Till : 23.03.2004 14:00

Estimated Arrival (local time):
23.03.2004 14:00
Computed at (CET): 23.03.2004 11:34

STATUS (CET time)

23.03.2004 10:16 Created / the system
23.03.2004 10:17 Loaded / Andrea Castellaneta
23.03.2004 11:34 Shipped / LORIS PASELLO
23.03.2004 15:32 Arrived / LORIS PASELLO
23.03.2004 15:50 Reservation / Domenico Ales
23.03.2004 17:31 Reservation / Fabrizio Fab
23.03.2004 17:37 Delivered / Daniele Ronc

Reservations Sender

Reservations Carrier

Reservations Receiver
Delivery (by Domenico Alessi)
---:accettazione:prodotto conforme
Delivery (by Fabrizio Fabbri)
---:Laboratorio: sulla base degli esiti il prodotto risulta conf

Additional Reser

PROPRIÉTÉ TRANSWIDE HOME

eSlot twDoc Quitter

Information:
Expédié le 03.02.2011 16:30 (Europe/Brussels)
Poids: 24672.0 kg
Information:

Livraison: 07.02.2011

Livraison le 04.02.2011 08:00 (Europe/Zagreb)
ETA à la livraison: 04.02.2011 11:00 (Europe/Zagreb)
Poids: 24672.0 kg
Information:

Livré le 04.02.2011 11:00 (Europe/Zagreb)
Poids: 24672.0 kg
Information:

haan)
MB UA 408/MB NP 981 hasn't
keep us informed.
haan)

le 04.02.2011 at 17:51 (Europe/Brussels) : D-PR-H-01 This references will be arrive to Croatien on 07th February. Please appologize this mistake

STATUT DU CALL-OFF

Créé par **SOLVIC SA** le 01.02.2011 at 14:15 (Europe/Brussels)
Mis à 'au chargement' par **Edyta Schmid** le 03.02.2011 at 08:09 (Europe/Brussels)
Temps enregistré: 03.02.2011 at 00:00 (Europe/Brussels)
Mis à 'au chargement' par **Edyta Schmid** le 03.02.2011 at 08:33 (Europe/Brussels)
Temps enregistré: 03.02.2011 at 13:15 (Europe/Brussels)
Mis à expédié par **Edyta Schmid** le 03.02.2011 at 16:23 (Europe/Brussels)
Temps enregistré: 03.02.2011 at 16:30 (Europe/Brussels)
poids enregistré: 24672.0 kg
Mis à 'au chargement' par **Edyta Schmid** le 03.02.2011 at 16:24 (Europe/Brussels)
Temps enregistré: 03.02.2011 at 13:15 (Europe/Brussels)
poids enregistré: 15100.0 kg
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Temps enregistré: 04.02.2011 at 08:00 (Europe/Zagreb)
poids enregistré: 24672.0 kg
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Temps enregistré: 04.02.2011 at 11:00 (Europe/Zagreb)
poids enregistré: 24672.0 kg
ETA à la livraison mise à jour par **Edyta Schmid** le 04.02.2011 at 17:19 (Europe/Brussels)
Temps enregistré: 04.02.2011 at 11:00 (Europe/Zagreb)

Ms Ingrid Bojang
+42 3 2397785
+
ingrid.bojang@spex.li

What has made the difference ?

- Team work and active listening

Cake challenge

- 4 straight knife cuts

Cake challenge

- Debriefing
- Start to unlearn

Necessary but not sufficient condition to innovate

- Accept to be wrong
- Fail fast and learn faster

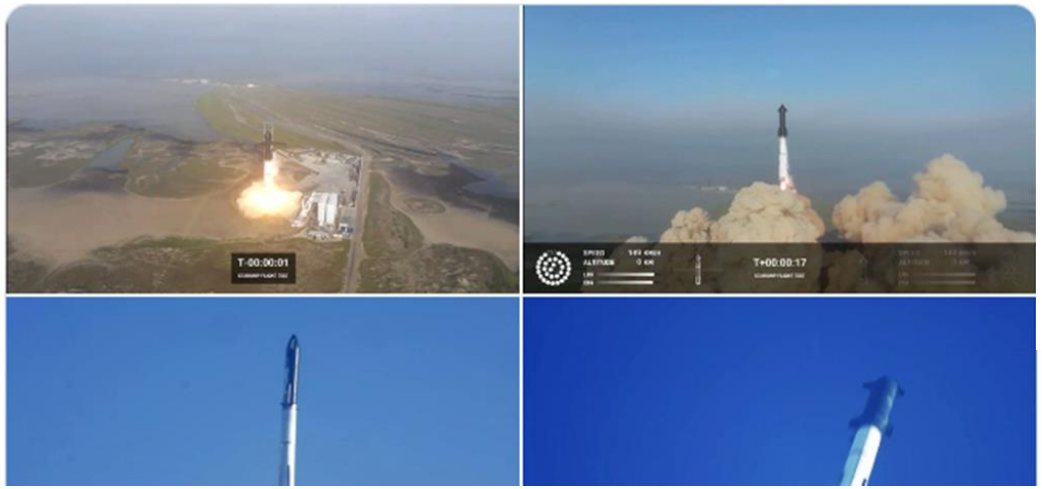
SpaceX's Starship rocket lifts off for inaugural test flight but explodes midair

By Jackie Wattles and Ashley Strickland, CNN
Updated 7:40 PM EDT, Thu April 20, 2023

Elon Musk
@elonmusk · **Follow**

Congrats @SpaceX team on an exciting test launch of Starship!

Learned a lot for next test launch in a few months.



Thomas Pesquet · Apr 20, 2023
@Thom_astro · **Follow**

Never mistake trial for failure. As you say in #BocaChica, "it's not an explosion, it's just rapid unscheduled disassembly." Congrats 😎 @SpaceX on this #Starship launch! #SpaceX

Why innovate ?

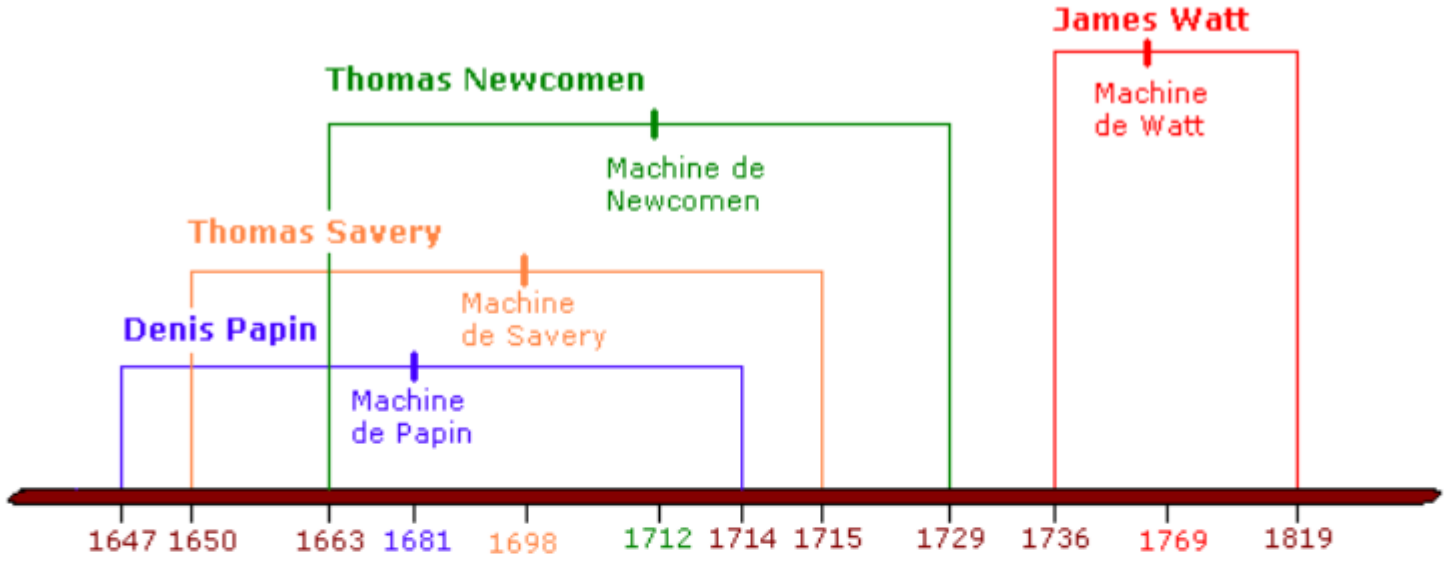
Does your company wants to be the first or the best ?

« Innovation is an invention implemented and used on a wide scale »

Steam engine history – invention vs. innovation

1:22

Steam engine history – invention vs. innovation



Pour découvr

 L'éolipyle de Héron d'Alexandrie	 La machine de Papin	 La machine de Savery	 La machine de Newcomen	 La machine de Watt

- Top down
  - Big companies have a tendency to reinforce past successes (red ocean)
- Bottom up
  - Emerging new markets come from passionate users
    - Examples :
      - Mountain bike
      - Rap music

How to innovate ?

- Build an innovation culture
  - Hire diverse and creative people
  - Practice disruptive innovation – the big jump rather than incremental
    - Ice over time
      - Ice lake -> ice factory -> fridge
      - Not the same men

- Be customer driven
- Foster open innovation – heed the wisdom of the crowd
- Be aligned on your strategy

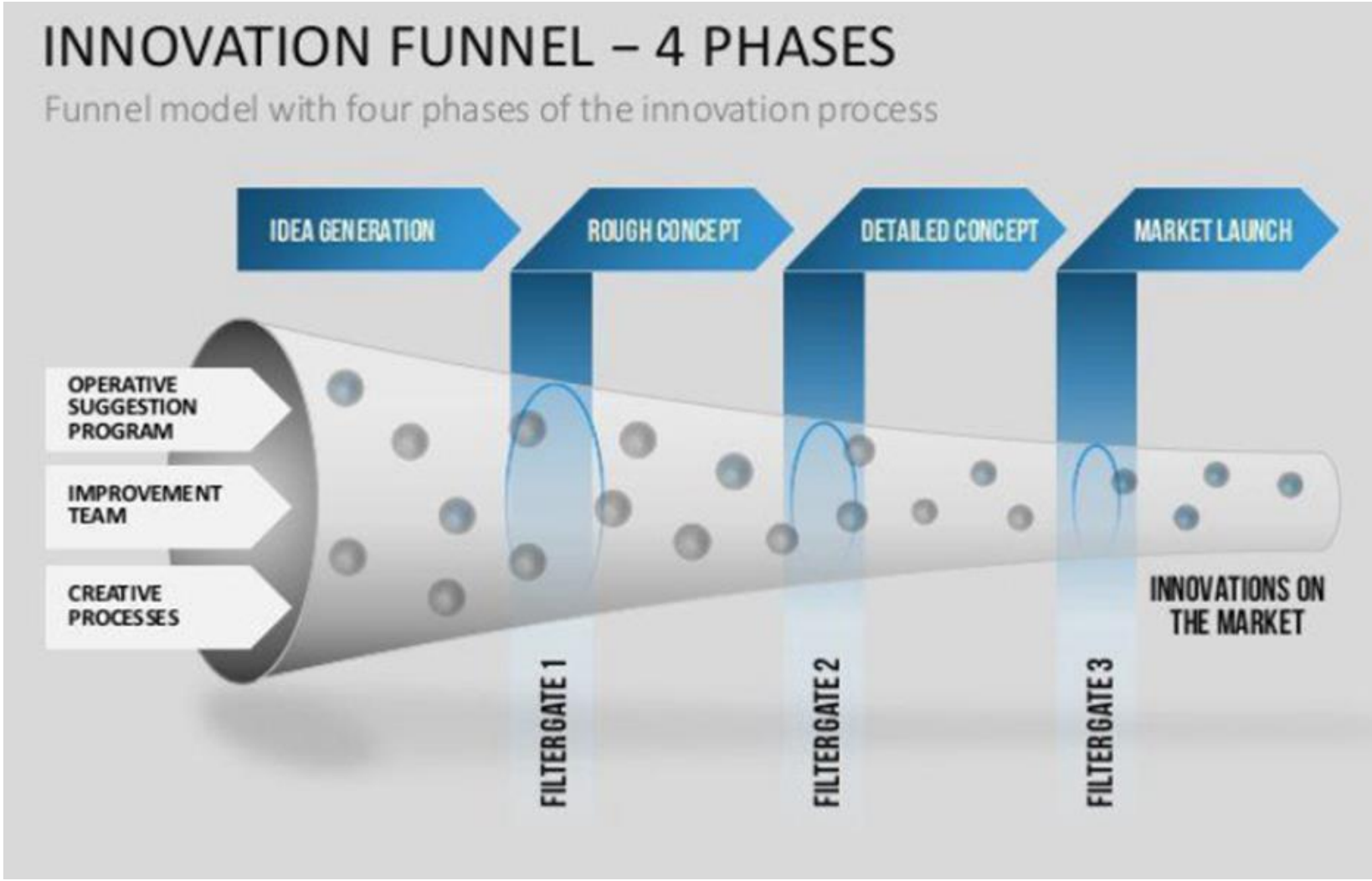
Invent vs. Innovate vs. Open Innovation

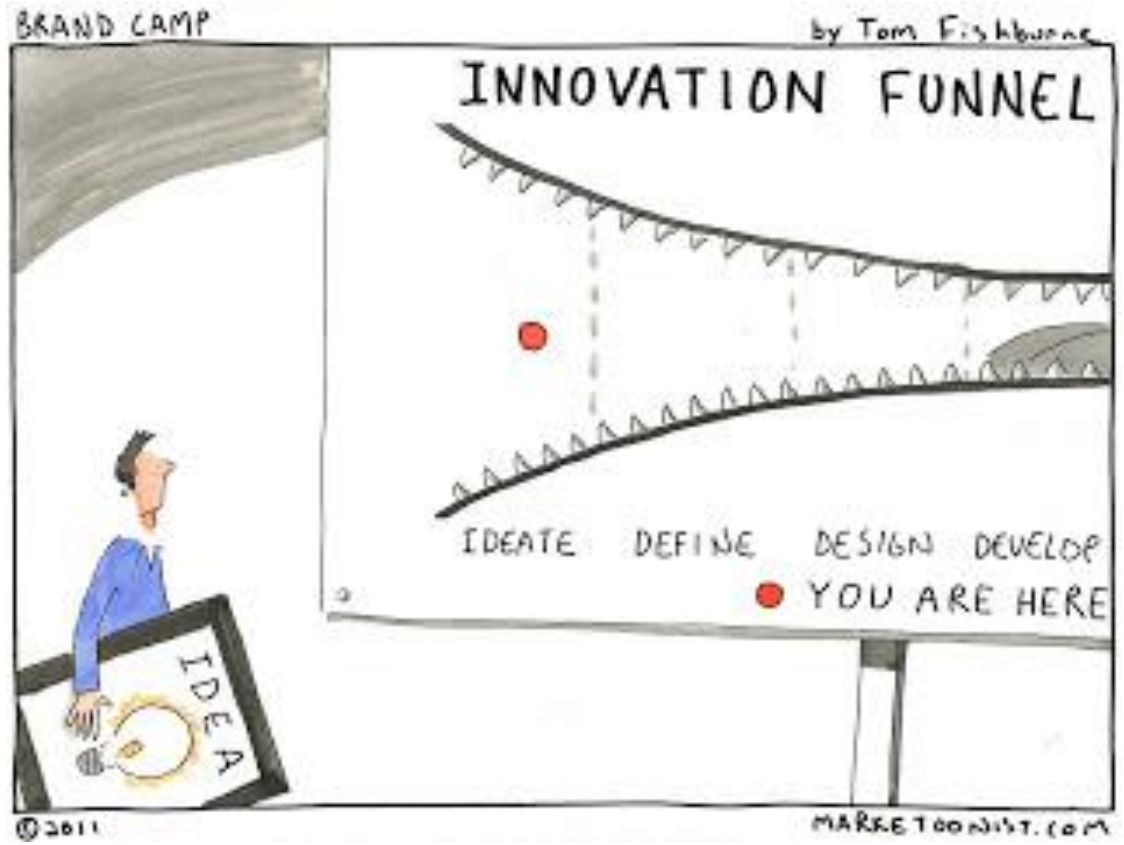
- Invention involves :
  - Internal R&D mainly
  - Special people in special places around special projects produce patents for passive users

- Innovation involves invention as well as replication

- Open Innovation involves internal and external stakeholders
  - In order to :
    - Boost innovation culture
    - Fasten time to market
    - Increase success rate of project
    - Reduce costs of project manegement and ideation

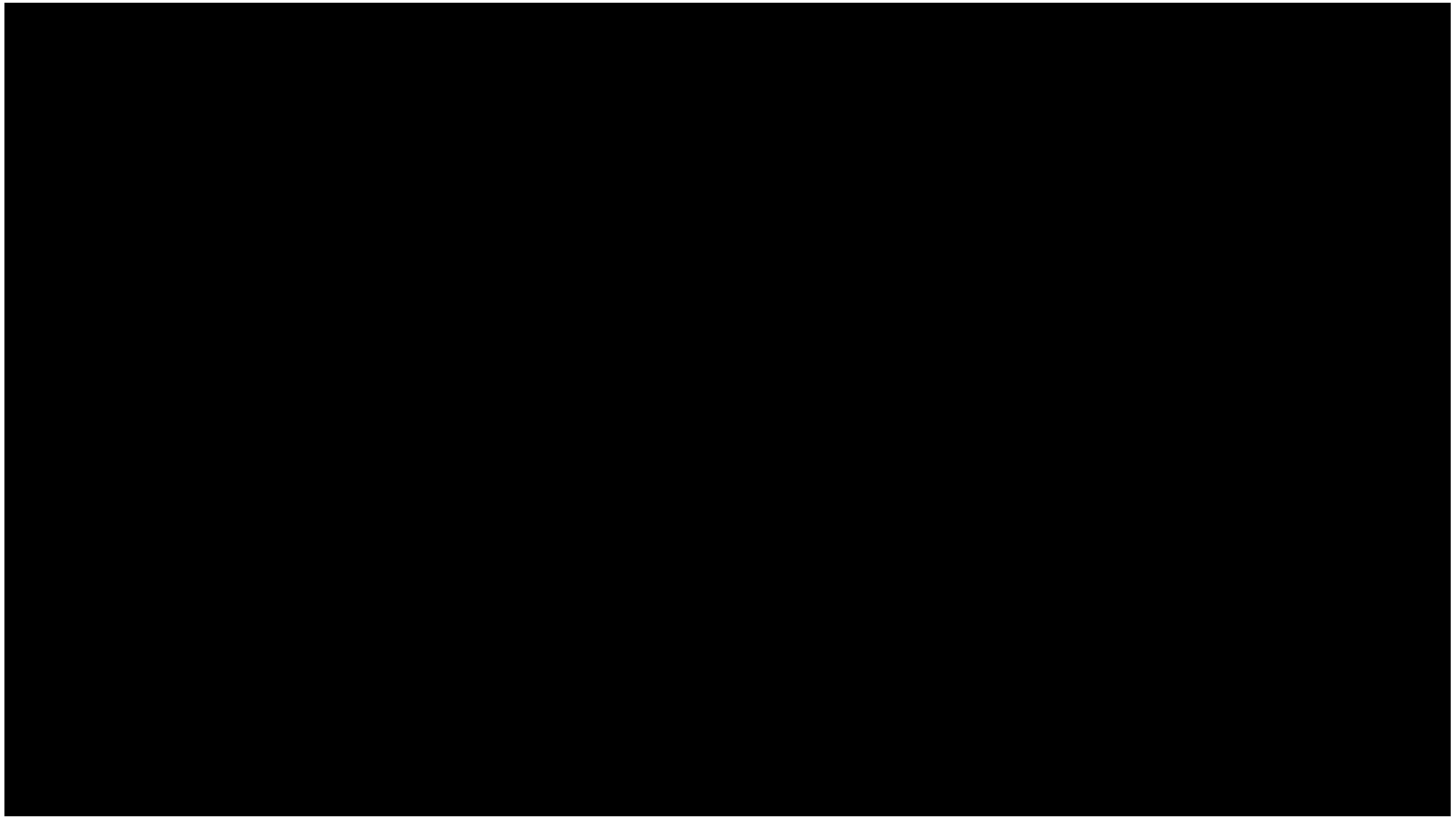
Traditional innovation




BRAND CAMP
by Tom Fishburne
INNOVATION FUNNEL
IDEATE
DEFINE
DESIGN
DEVELOP
YOU ARE HERE
IDEA
©2011
MARKETOONIST.COM

The Open Innovation

The Open Innovation at P&G – where is the catch ?



Open Innovation

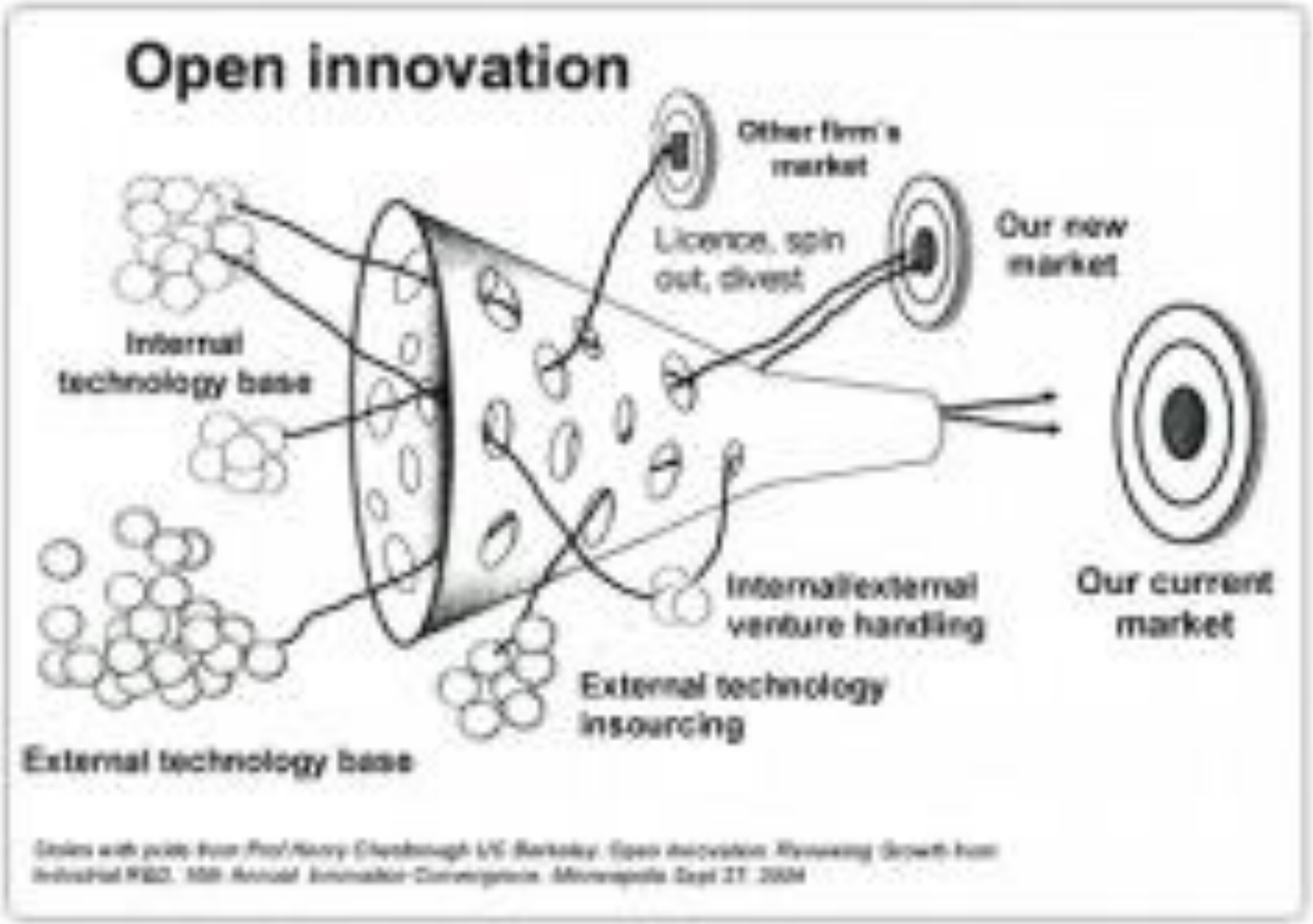
- Outside in
- Inside out
- Both

Closed vs open innovation

- Closed investment means
  - High patent cost
  - High R&D investment costs
  - Slow Innovation process

- By moving to open innovation you can leverage cost and speed (outside in) or share cost and speed (inside out) in areas yoou wouldn’t expect

Wrap-up


Open innovation
Other firm's market
Licence, spin out, divest
Our new market
Internal technology base
Internal/external venture handling
Our current market
External technology insourcing
External technology base

Henry Chesbrough

E-Auction

Wrap-up

Closed Model	Open Model
Use knowledge from internal sources	Internal + External knowledge sources
Low (typically 20-30%) success rate	Double innovation success rate, up to 80%
A lot of rework, low productivity	40-60 % productivity increase
Low speed of innovation	High speed of innovation (x 3)

Early adopters

- Cisco may be the most important **OI pioneer**. Its **acquisition** strategy allowed the company to grow quickly during the late 90's. The goal of these acquisitions was to make hardware compatible with software in new technological products. This **customer-driven innovation strategy** helped Cisco overperform Bell Labs or Lucent by effectively translating big tech investments into business growth.
-
- Another trailblazer is, undoubtedly, the pharmaceutical company Eli-Lilly, spearheaded by its **R&D strategy manager**. The company reflected on how to make use of **collective intelligence** to improve the traditionally **low innovation success rates** in the pharmaceutical industry. Consequently, e.Lilly was born around the year 2000, the first open innovation platform to connect with global scientific knowledge. This platform is the origin of Innocentive, Eli Lilly spin-off, whose goal was to allow other pharmaceutical and consumer goods companies to use this open model.
-
- The third initiator is Procter & Gamble, the company that created in 2000 the so-called Connect & Develop their new **open innovation process**. P&G's ultimate goal was to continue growing by $2 billion annually while keeping a steady R&D investment. Procter managed to have up to **50% of its innovations coming from the outside** and, consequently, its R&D productivity increased by 60%.

To avoid

- E-auction
- Traditionnal functional requirements
- Innovation box

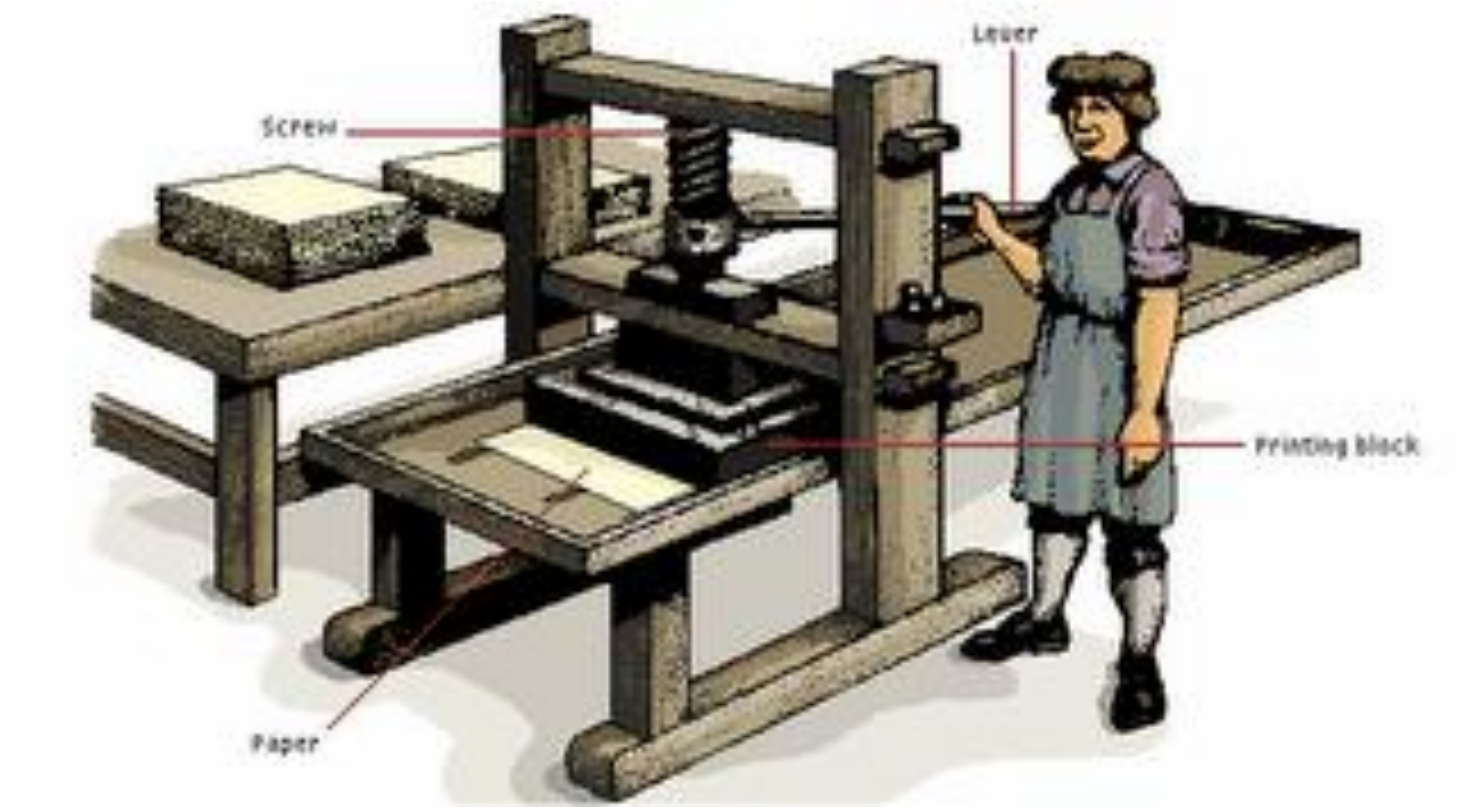
At least if they are not meant as collaborative

1:08 – 3:05

Technical functional requirements vs. Performance requirements

- You get what you ask for not more

Technical functional requirements vs. Performance requirements



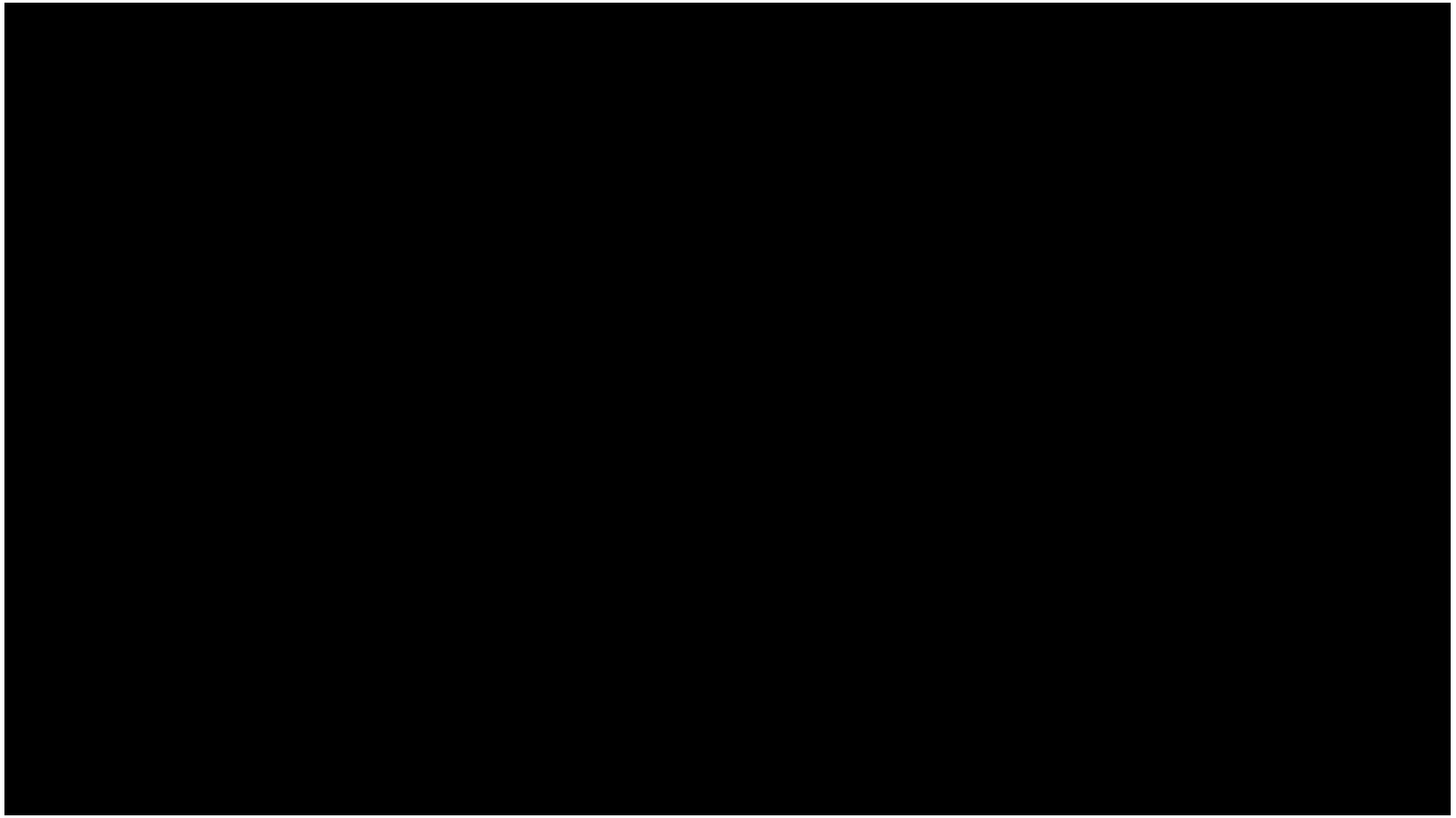
Technical functional requirements vs. Performance requirements

« The smartest people in the world don’t work all in our company »

Bill Joy (Unix – Sun Microsystems)


MAHLE
TRW
Automotive
BOSCH
HELLA
Ideas today for the cars of tomorrow
Valeo
BorgWarner
Autoliv
Johnson Controls
DELPHI
ZF
Continental
The Future in Motion
brose
LUK
FAG

Honda – Xcelerator, the power of dreams



Honda – Xcellerator, the power of dreams

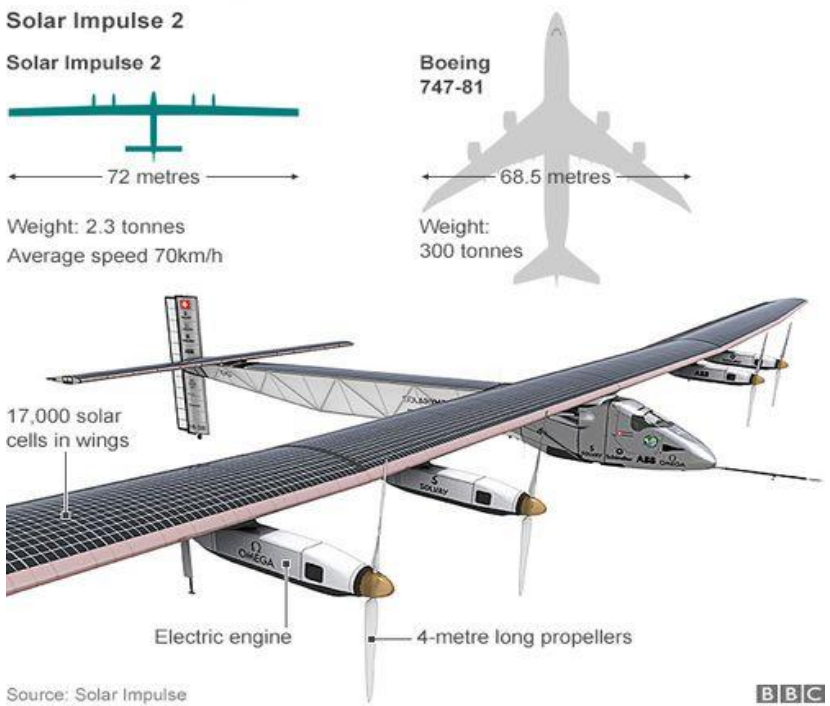

TO FLY AROUND THE WORLD IN A SOLAR POWERED AIRPLANE,
NO FOSSIL FUEL, NO EMISSION, NO POLLUTION
SOLARIMPULSE
AROUND THE WORLD
SOLARIMPULSE

Solar cells - 135 microns thick
(as thin as a hair)

17,248 Solar cells

Wingspan
72m (236ft)

Batteries Energy Density
4 x 260 Wh/kg



Source: Solar Impulse

BBC


Si2
SOLARIMPULSE
Technische Entwicklungen von Solvay in Solar Impulse 2
1 Halar® ECTFE
Energieaufnahme
Die Solarzellen werden von einer Spezialfolie aus Halar® ECTFE vor den rauen äußeren Bedingungen geschützt.
2 Solstick®
Energieaufnahme
Das transparente und leichte Klebeband Solstick® verschließt die Lücken zwischen den Solarzellen. Es hält dem Wechsel zwischen hohen und niedrigen Temperaturen stand und ist elastisch, um die Biegung der Flügel auszuhalten.
3 Solef® PVDF
Energiespeicherung
Alle Motoren
PVDF Solef® wird als Bindemittel in den Akkus verwendet. Es spart Gewicht, verbessert die elektrochemische Stabilität und erhöht die Akkuleistung.
4 F1EC
Energiespeicherung
Alle Motoren
Das Lösemittel F1EC (Monofluorethylencarbonat) verbessert die Haltbarkeit der Lithium-Ionen-Akkus.
5 Torlon® PAI
Konstruktion
Flügelholm mit Waben-Struktur aus Papier, das mit Torlon® PAI imprägniert ist. Die Verbundstruktur zeichnet sich durch hervorragende mechanische Eigenschaften (Zähigkeit, Dreh-, Biege- und Schwingungsfestigkeit) und geringes Gewicht aus.
6 VTM 264® Prepregs VTA 260® Strukturkleber
Konstruktion
Gewebeverbünde für die flexible Gestaltung von Leichtbaukomponenten.
7 Solkane® 365mfc
Konstruktion
Der Polyurethanschaum für das Cockpit wurde mit Solkane® 365mfc hergestellt. Er kombiniert Isolierung, Dimensionsstabilität, Stauchfestigkeit und Feuchtigkeitsbeständigkeit.
8 TegraCore™ PPSI
Konstruktion
Zellverbundmaterial für den Boden des Cockpits.
9 KetaSpire® PEEK PrimoSpire® SRP
Niedriges Gewicht/ Metallersatz
Schrauben aus dem Kunststoff KetaSpire® sparen gegenüber Metallschrauben Gewicht.
10 Ixef® PARA
Niedriges Gewicht/ Metallersatz
Pneumatikzylinder aus Ixef® PARA heben und senken die Schutztüren des Fahrwerks. Der Kunststoff ersetzt Metall und spart Gewicht.
11 Sinterline® Polyamide 6
Niedriges Gewicht/ Metallersatz
Sinterline® Polyamide 6 für selektives Laser-Sintern mit industrieller 3D-Drucktechnologie. Das Kunststoffgehäuse des Flugdatenrechners und die Klemmen für die Signalleuchten an den Flügeln sparen im Vergleich zu Aluminium 78 Prozent Gewicht.
12 Fomblin® PFPE
Schmierung
Alle Motoren
Fomblin®- Schmierstoffe verbessern die Anti-Verschleiß- und Anti-Rosteigenschaften und verringern den Wartungsaufwand.
13 Nicht lineare numerische Modellierung
Numerische Simulationen
Nicht lineare numerische Modellierung für Werkstoffverhalten (wie Solarzellenverkapselung, Epoxydverklebung) und zur Festlegung der Flugzeugstruktur (Solarpaneele, Flügelrippen, Flügelvorderkanten).
14 Emana® auf Basis von Polyamid 6.6
Über das Flugzeug hinaus
Mit Emana® hat Solvay eine intelligente Textilfaser entwickelt, die Infrarotstrahlung des Körpers absorbiert und als Fernintrarotwelle wieder abstrahlt. Kleidung aus Emana®-Garnen regt die Mikrozirkulation des Bluts an und verbessert die Muskelleistung.
15 Aufblasbarer mobiler Hangar
Über das Flugzeug hinaus
Aufblasbarer mobiler Hangar: Doppellagige, aufblasbare und bogenförmige Konstruktion aus PET-Folie mit Polyurethanbeschichtung sowie Teilen aus PET mit Emulsions-PVC-Beschichtung.