

# Quality Engineering

La croissance durable par la qualité

**QE**  
UNIT

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# Se réinventer, mais sans trainer

“In Today’s era of **volatility**, there is no other way but to **re-invent**. The only **sustainable advantage** you can have over others is **agility**, that’s it. Because nothing else is sustainable, everything else you create, somebody else will replicate.”

— Jeff Bezos, Founder, Amazon

# La volatilité toujours bien présente

## VUCA

Volatility

Uncertainty

Complexity

Ambiguity

# Un brouillard continu

# Plus de surprises



# De la frugalité





# Le logiciel ajout du piquant

**Délivrer des expériences digitales** sans interagir directement avec les utilisateurs

**Construire des incréments logiciels abstraits** et les adapter par l'expérimentation

**Rationaliser des processus bout-en-bout** à la fois complexes et interdépendants

# Des acteurs plus exigeants

**Client**



Résolution problème client

**Marché**



Positions restants vacantes

**Société**

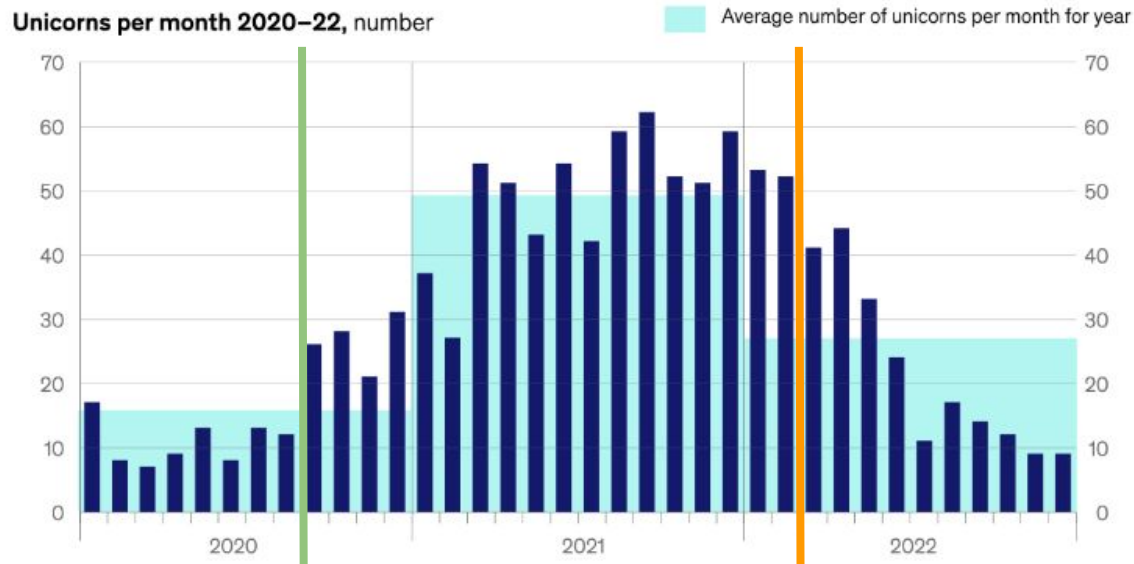


Projection dans entreprise



# Un écosystème qui se fragilise

Shrinking valuations and pullback from investors slowed the rate of unicorn creation in 2022.



Source: PitchBook Unicorn Companies Tracker

McKinsey & Company

# Vers un monde plus complexe

## VUCA

Volatility  
Uncertainty  
Complexity  
Ambiguity



## BANI

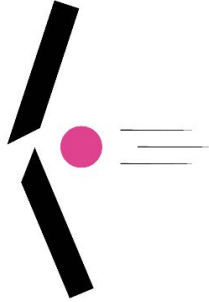
**Brittle**  
Anxious  
Non-linear  
Incomprehensible

# “Brittle” ou “Fragile”

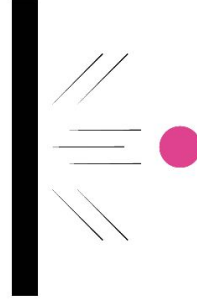
Un système **fragile** semble généralement très **stable, solide et robuste**

Mais **devient poreux et se brise avec le temps**, ce qui est généralement inattendu, et avec des conséquences considérables

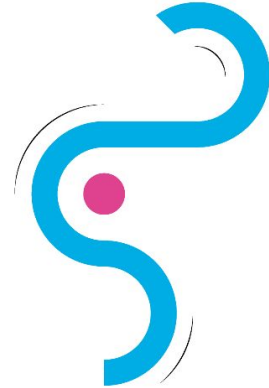
FRAGILE

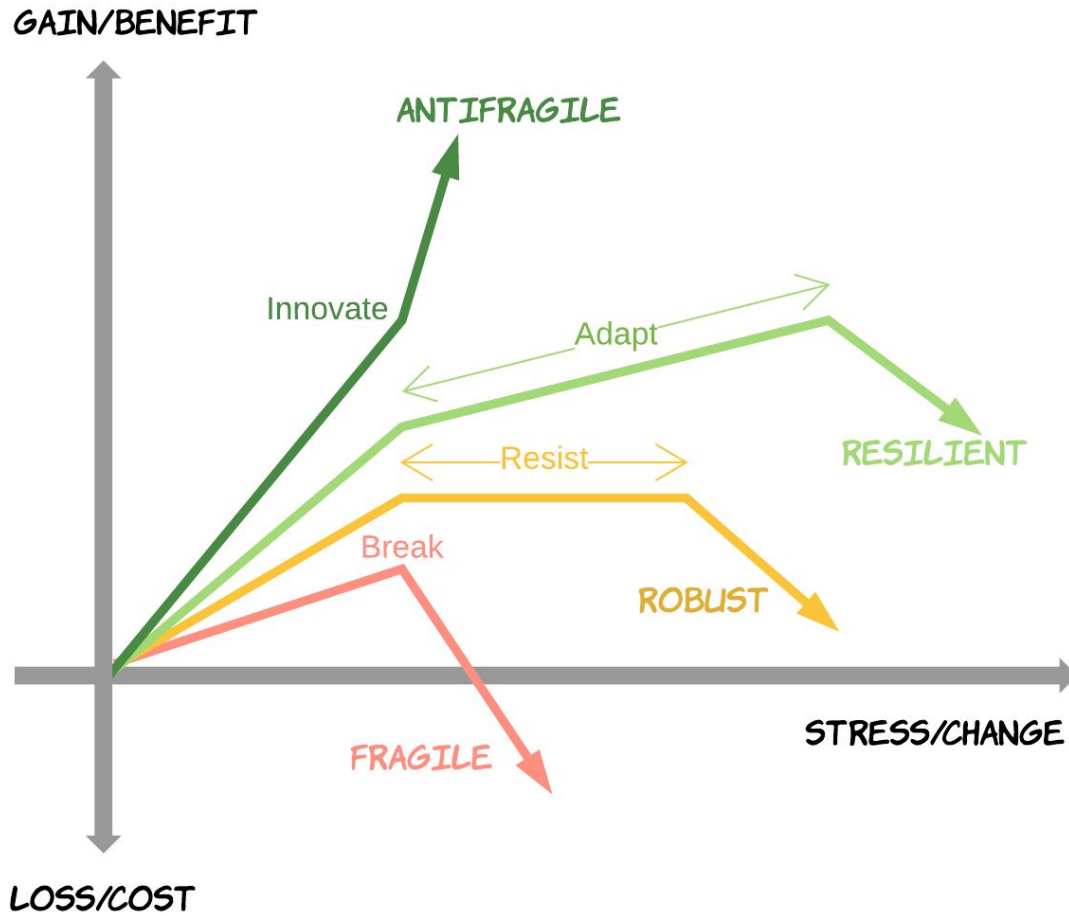


RESILIENT

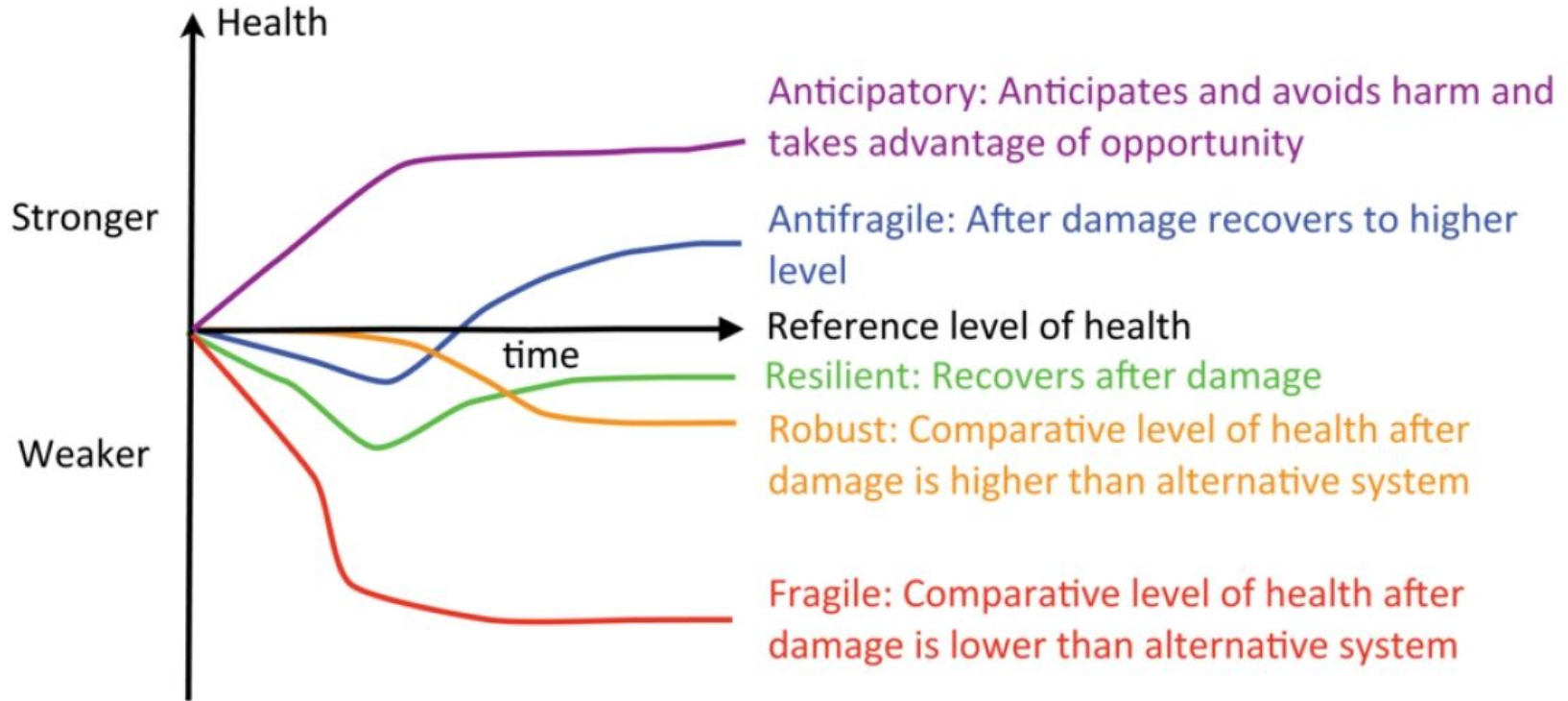


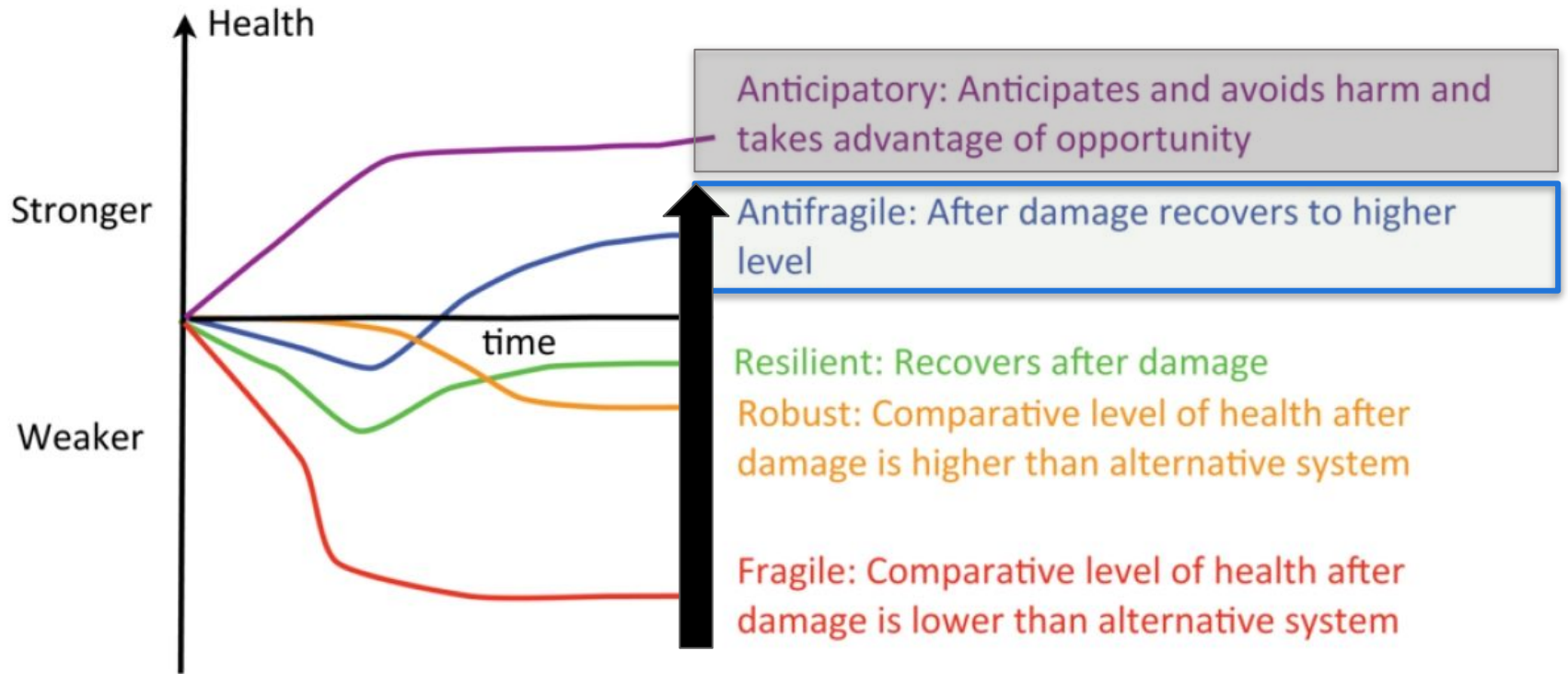
ANTIFRAGILE





# Options



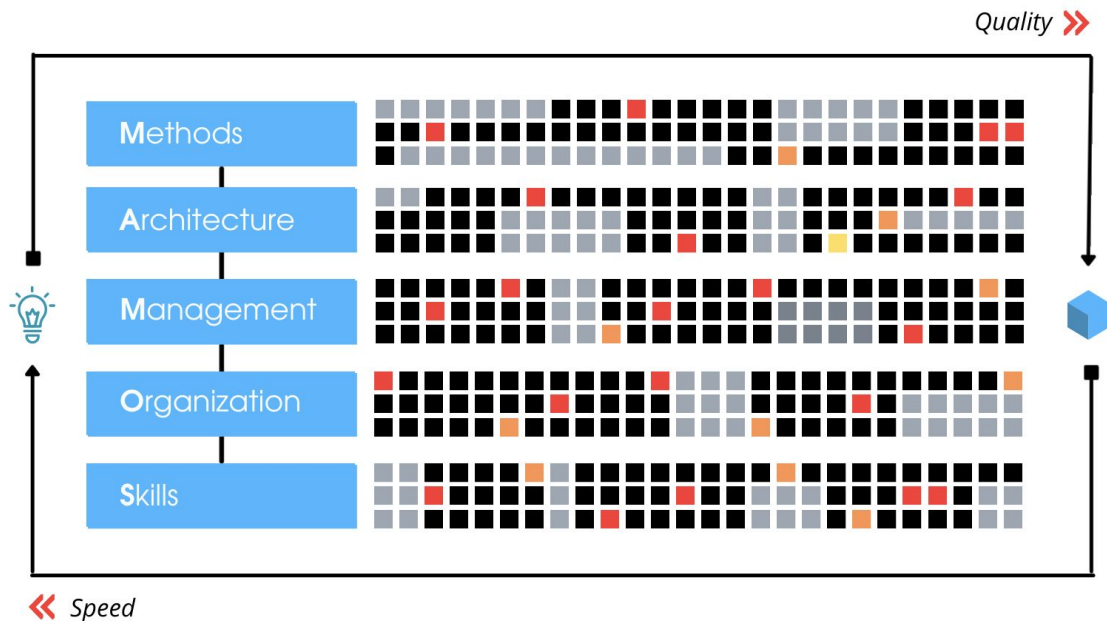








# 95% des organisations sont trop fragiles



*“95% des organisations annoncent des transformations **sans avoir les capacités digitales ou technologiques**”*  
McKinsey & Company, State of Organizations 2023





# Pourquoi autant de fragilité ?

1. Accent excessif sur le **court-terme**
2. Non-réméditation des **faiblesses**

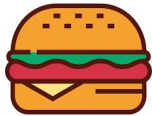


# Pourquoi autant de fragilité ?

1. Accent excessif sur le **court-terme**

2. Non-rémédiation des faiblesses

# Boucles de feedback retardées



# Boucles de feedback retardées



Problème



Incident



# Pourquoi autant de fragilité ?

1. Accent excessif sur le court-terme

2. Non-rémédiation des **faiblesses**



# Que faire ?

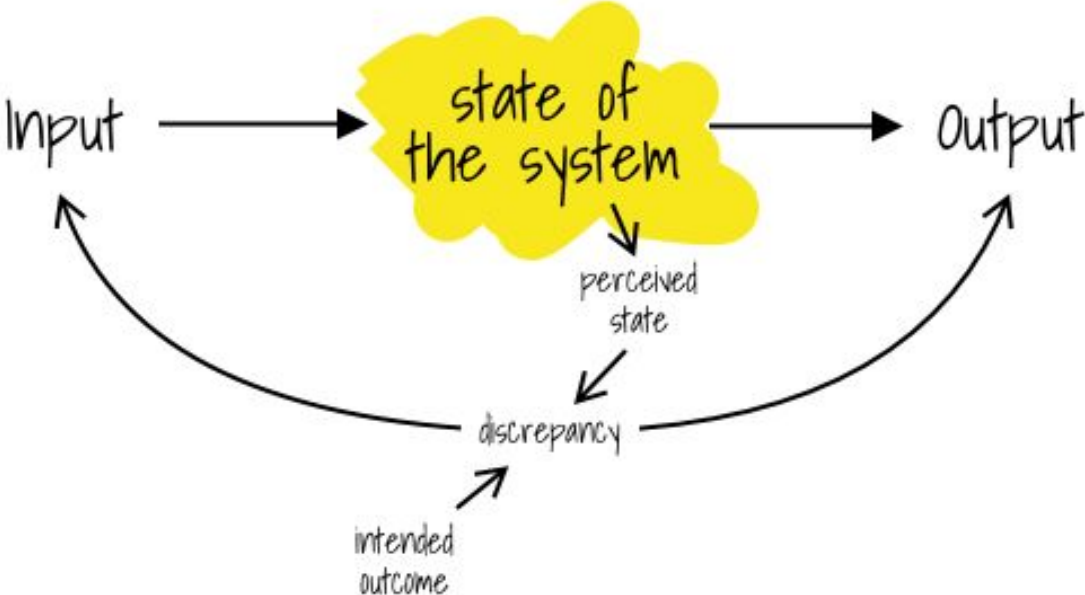
Intelligence  
émotionnelle

Résilience  
Gestion du stress  
Accepter complexité

Adaptabilité

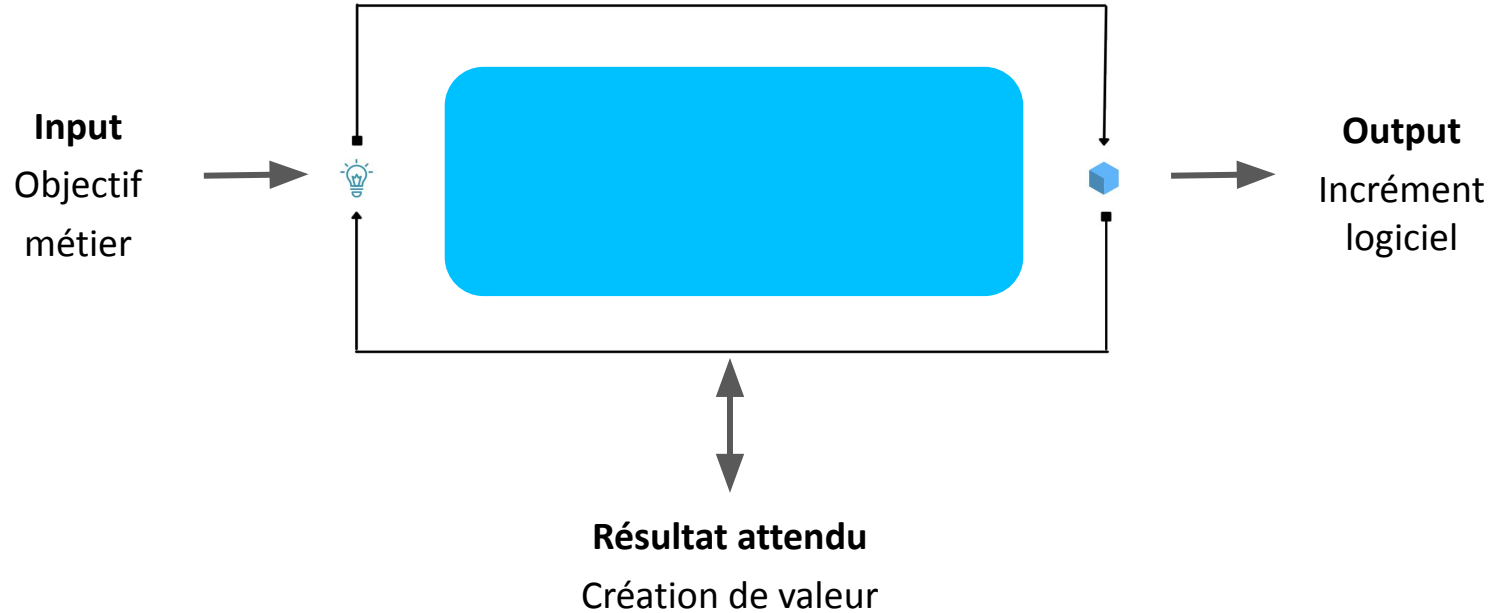
Identifier les forces  
Considérer l'écosystème  
Dynamique organisationnelle

# L'approche systémique

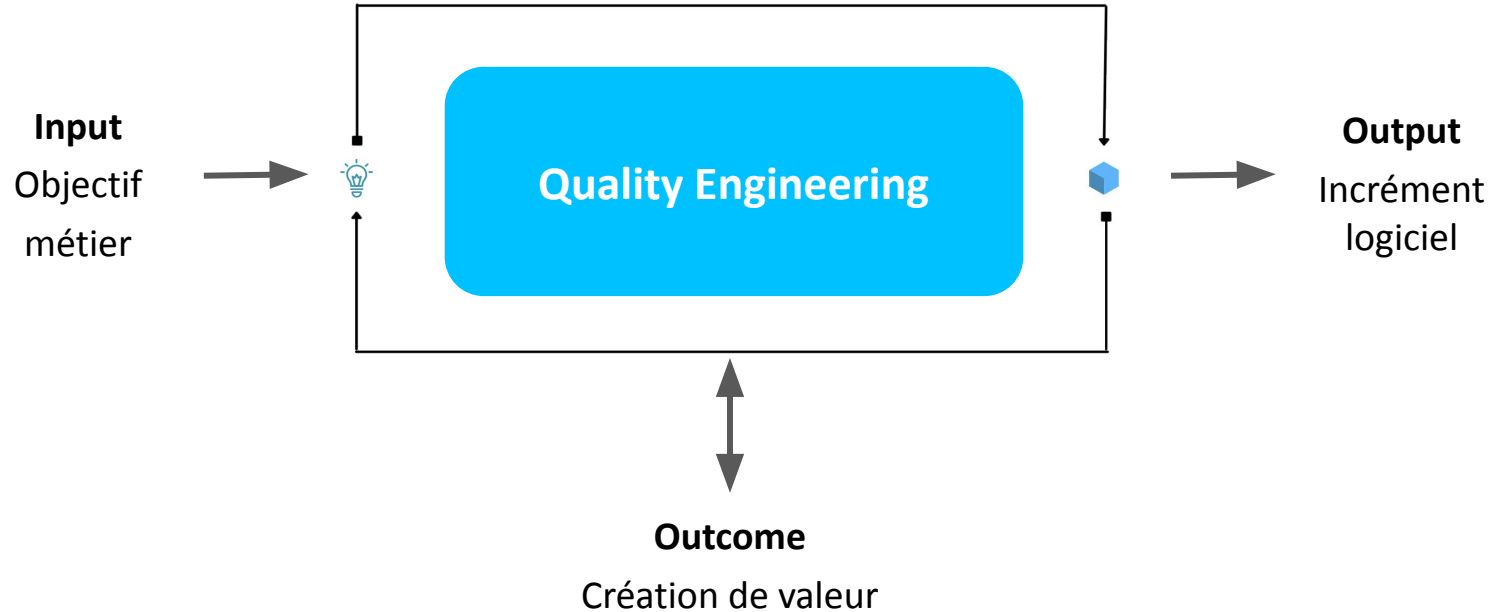


*Adapted from "Leverage Points: Places to Intervene in Systems" by Donella H. Meadows*

# L'approche **systemique** portée au **logiciel**



# L'approche **systemique** portée au **logiciel**



# Quality Engineering

L'approche systémique de production logicielle

# Paradigme du Quality Engineering

La **production** logicielle est **socio-systémique**

Le **croissance** du business dépend du **logiciel**

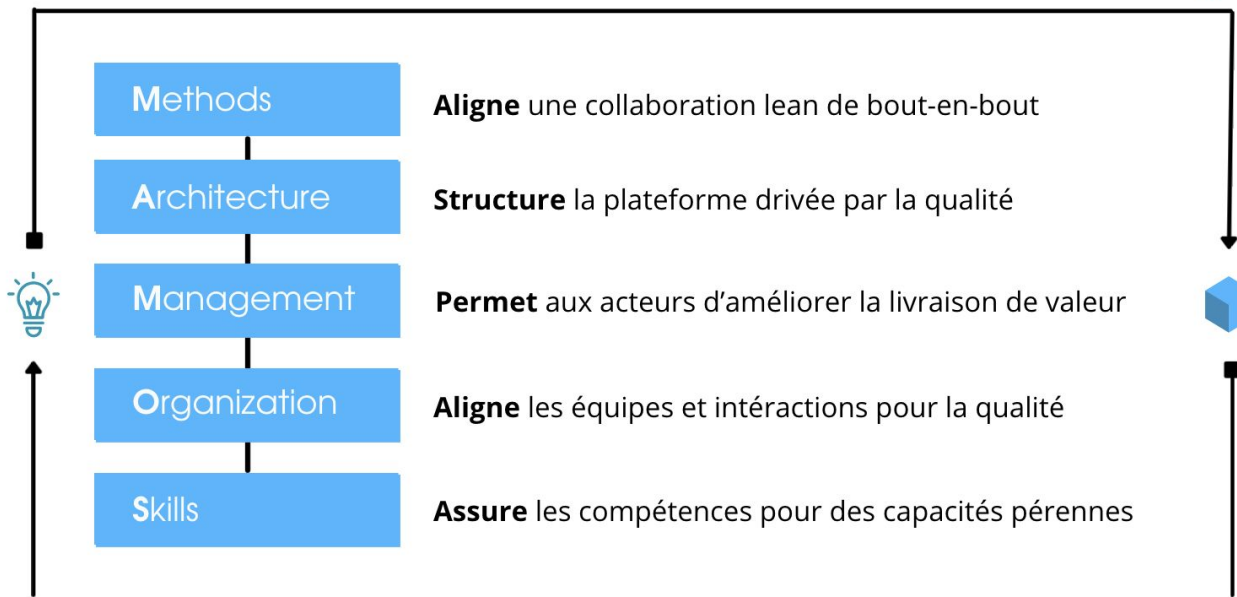
La **performance** dépend de la **qualité antifragile**

# Définition du Quality Engineering

“Le Quality Engineering est l’**application de la qualité totale** à la production logicielle par une **approche systémique**, permettant de développer des **capacités de Quality at Speed** pour une **croissance durable d’entreprise**.”

—*La définition du Quality Engineering, QE Unit*

# L'approche systémique MAMOS





# Les capacités de *Quality at Speed*

Methods	Focus	Plan	Design	Specify	implement	Deliver	Deploy	Operate	Learn	Improve
Architecture	Urbanization	Make or Buy	Modularity	Integration	Security	Self-Service	Observability	Resilience	Experiments	Flexibility
Management	Vision	Alignment	Choices	Collaboration	Empowerment	Performance	Risks	Fail Fast	Measurement	Development
Organization	Design Choices	Commitment	Structure	Communication	Leadership	Management	Engagement	Planning	Organizational Learning	Organizational Culture
Skills	Expertise Mapping	Strategic Partnerships	Remote Enablement	Development Facilitation	Talent Attraction	Talent Retention	Teamwork	Communication	Community	Learning

# La croissance durable

<i>Maturity level</i>	<i>System attribute</i>	<i>Stress reaction</i>
<b>Thriving</b>	<b>Antifragile</b>	<b>Innovate</b>
<b>Mastering</b>	<b>Resilient</b>	<b>Adapt</b>
<b>Modeling</b>	<b>Robust</b>	<b>Resist</b>
<b>Missing</b>	<b>Fragile</b>	<b>Break</b>

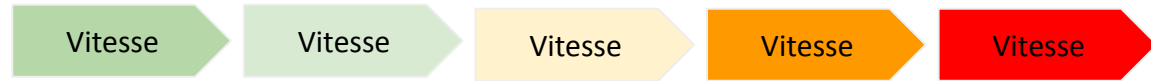
# Le modèle de maturité

Maturity level	Business		Organization		Delivery		Reliability	
	Customer Satisfaction	Market Growth	Employee Satisfaction	Revenues per FTE	Lead-time for changes	Mean-time to recover	Actual vs Plan variance	Change Fail Rate
Thriving	<b>Leader</b> NPS 71-100	<b>Leader</b> > 10%	<b>Leader</b> NPS 71-100	<b>Maximal</b> >\$500k/y	<b>Frequent</b> Per week	<b>Fast</b> <1 hour	<b>Minimal</b> 0-5%	<b>Minimal</b> CFR 0-15%
Mastering	<b>Good</b> NPS 30-70	<b>Competitor</b> 5-9%	<b>Good</b> NPS 30-70	<b>Optimized</b> \$200k-500k/y	<b>Variable</b> 1-4 weeks	<b>Reactive</b> <1 day	<b>Medium</b> 6-15%	<b>Minimal</b> CFR 0-15%
Modeling	<b>Medium</b> NPS 1-29	<b>Slower</b> 2-4%	<b>Medium</b> NPS 1-29	<b>Growing</b> \$50k-200k/y	<b>Slow</b> 1-3 months	<b>Slow</b> 1-7 days	<b>High</b> 16-30%	<b>High</b> CFR 31-45%
Missing	<b>Negative</b> NPS -100-0	<b>Dying</b> < 0-2%	<b>Negative</b> NPS -100-0	<b>Poor</b> \$0-50k/y	<b>Inertia</b> 3-6 months	<b>Hard</b> >7 days	<b>Critical</b> > 30%	<b>Critical</b> CFR >46%

# Le paradigme

Approche pilotée par la date

Input  
Objectif  
métier



# Le paradigme

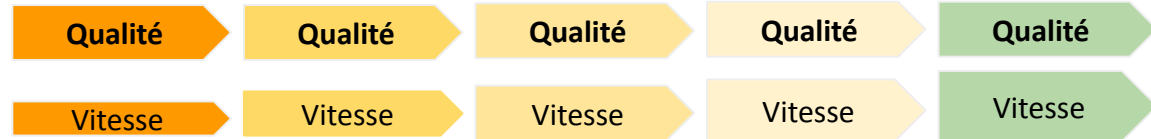
## Approche pilotée par la date

**Input**  
Objectif  
métier



## Approche **Quality Engineering**

**Input**  
Objectif  
métier





Dans Riverdale, quel personnage est aussi dans la série ?

• A: Archie Andrews

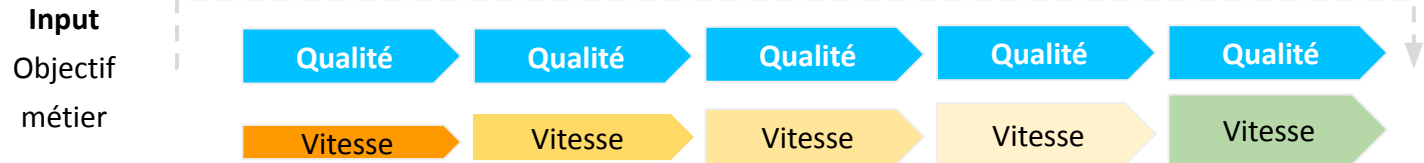
• B: Jughead Jones

• C: Kevin Keller

• D: Reggie Mantle

# Où investir en Qualité ?

## Approche Quality Engineering



# Structurer l'approche

## Assess

*Identify Quality and Speed pains*

### 2 Pains Types



## Architect

*Resolve structurally with MAMOS*

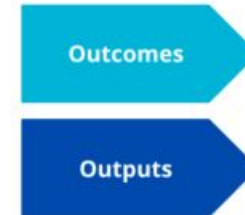
### 5 System Areas



## Accelerate

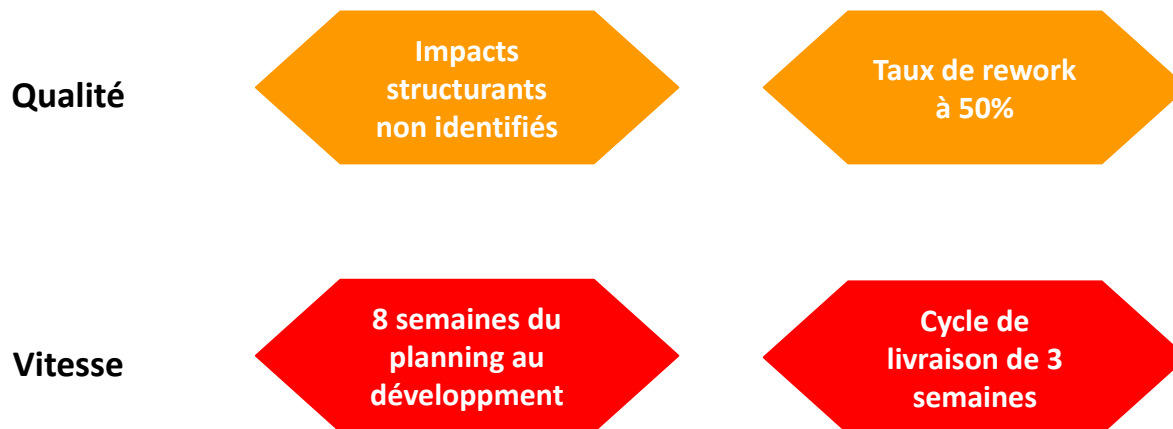
*Quality Engineer for Quality at Speed*

### 2 Delivery Types

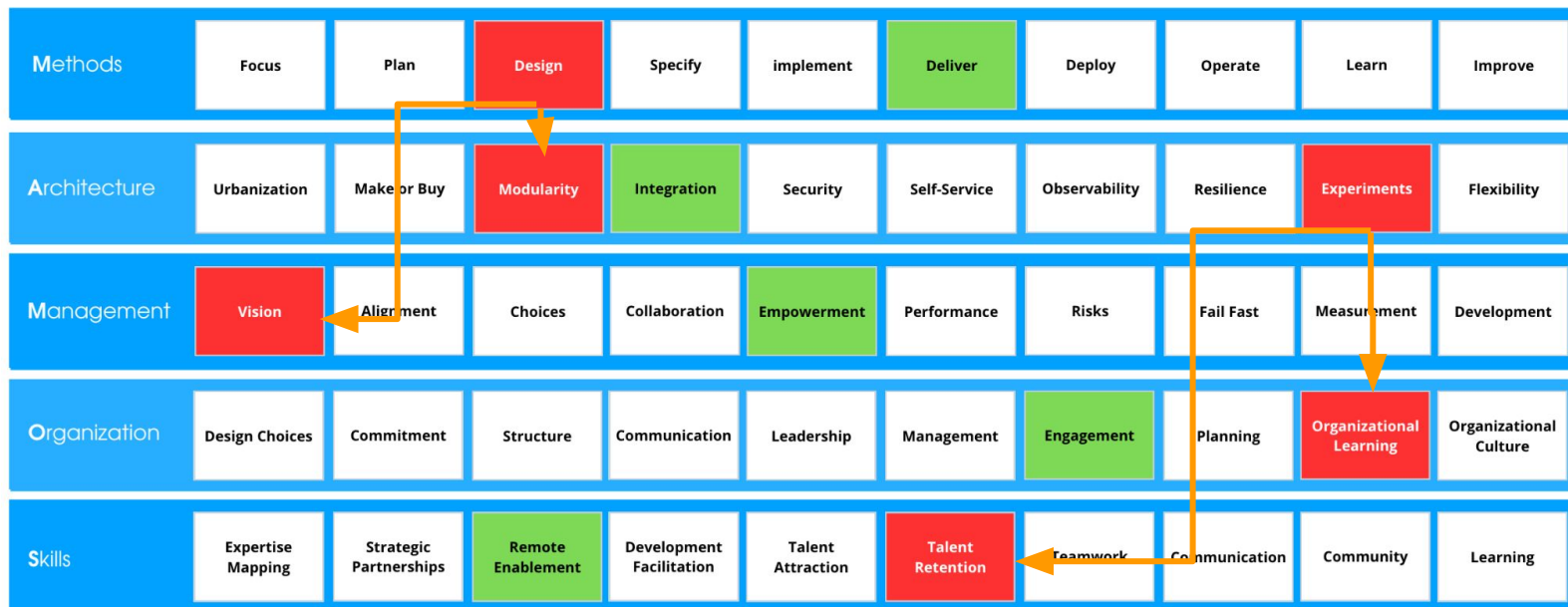




# 1. Prioriser les douleurs



## 2. Développer le système



# La description des capacités

## Assessment

FLASH

Are your strategic objectives well-defined, and do your teams have a clear understanding of their priorities and goals?

### Strategy Definition

How effectively are your software development efforts aligned with your organization's strategic objectives?

### Priority Definition

How do you prioritize tasks and initiatives within your software production process?

### Scope Definition

Do you have a well-defined scope for your software projects, and is it consistently communicated across teams?

### Goals Definition

Are your software development goals SMART (Specific, Measurable, Achievable, Relevant, and Time-bound)?

Deep dive into each capability with access to MAMOS subareas and support [here](#).

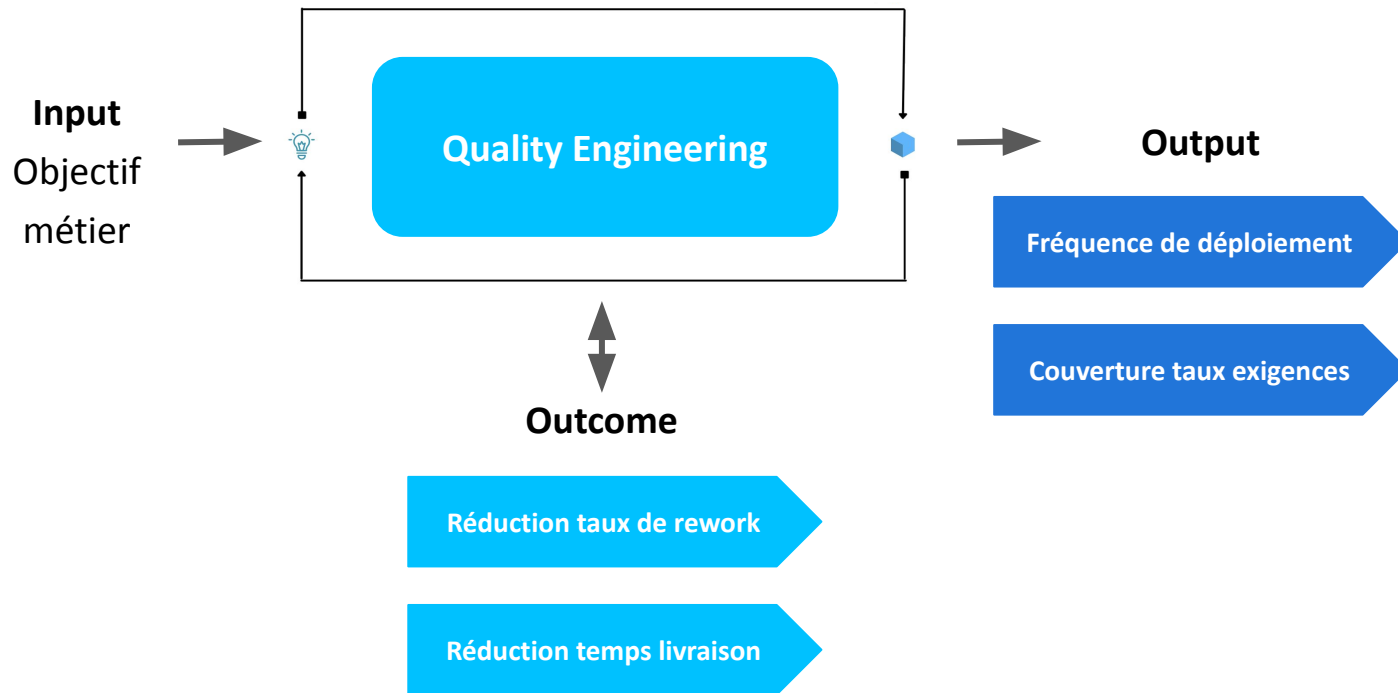
## Maturity

### Thriving

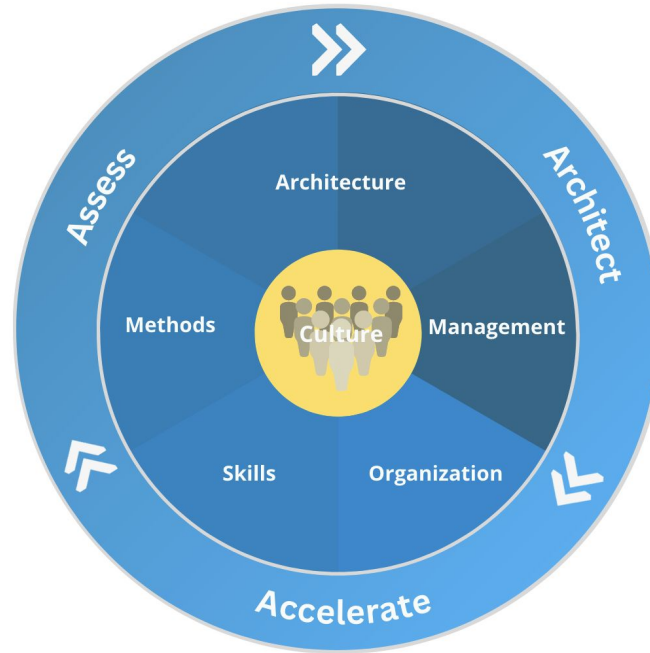
- Strategic objectives are well-established and aligned with business goals.
- Prioritization is consistently applied across the organization.
- Projects consistently have clear scopes and goals that drive successful outcomes.

*Foster a culture of continuous improvement and adaptability.*

### 3. Vérifier le progrès



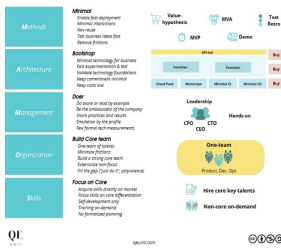
# Un framework **réplicable**



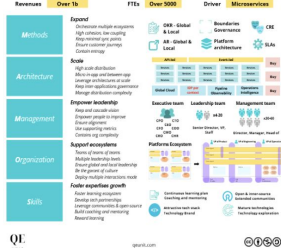
# Des modèles pour accélérer

## Start-up au passage à l'échelle

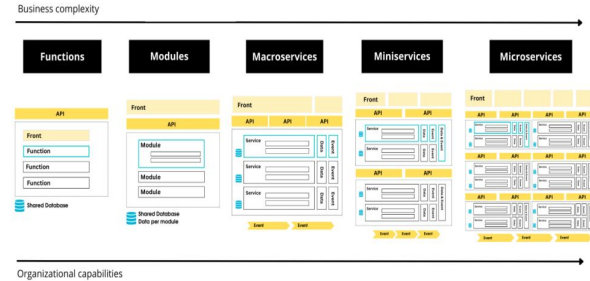
### MAMOS I



### MAMOS V



## Monolith au Microservices



## QA au QE

Quality Control	Quality Assurance	Quality Assistance	Quality Enablement	Quality Engineering
Methods	Methods	Methods	Methods	Methods
Architecture	Architecture	Architecture	Architecture	Architecture
Management	Management	Management	Management	Management
Organization	Organization	Organization	Organization	Organization
Skills	Skills	Skills	Skills	Skills

*La croissance durable par la qualité*

**Construisez un système  
anti-frAGILE  
avec MAMOS**

# Démarrer votre évaluation

<i>Maturity level</i>	<i>System attribute</i>	<i>Stress reaction</i>
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<https://qeunit.com/mamos/assessment/>



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