

# High Performing Cloud Architects

“Micro-teams”  
Sander Hoogendoorn

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*Collectives and microteams*  
*How we change the way we work. Again*

Sander Hoogendoorn

Director at 101 Ways, Chief Architect at Quby

@aahoogendoorn

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# Sander Hoogendoorn

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Independent dad, post-agile coach,  
programmer, speaker, author, traveler

## Currently

Director 101 Ways, Chief Architect Quby

## Before

CTO ANVA

CTO Klaverblad Verzekeringen

Global agile thoughtleader Capgemini

Partner Ordina

 [sanderhoogendoorn.com](http://sanderhoogendoorn.com)

 [aahogendoorn](https://twitter.com/aahogendoorn)

 [aahogendoorn](https://github.com/aahogendoorn)

 [sander@ditisagile.nl](mailto:sander@ditisagile.nl)

 [sander@101ways.com](mailto:sander@101ways.com)

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101  
ways

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*A short history  
of thinkers and workers*

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## *Craftsmanship*

Organizing work  
in earlier days

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*Industrialization  
changed everything*

Even the way  
we do our work today

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## *Thinkers and workers*

Efficiency through  
standardization and  
simplification

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*"Building" software*  
Using the wrong metaphors

[Click here](#)

## *Software development as an assembly line*

We **build** software  
Centralized decision  
making

Detailed linear processes

Thinkers versus doers

Micro-management of  
individual tasks

Little creativity

[Read more ...](#)



# Linear software development

Computer Services	Prepares Data Requirements Document. Participates in review of Data Requirements Document, and uses information for capacity planning.
ADP Security	Provides input to the data requirements analysis (optional).
Project Data Administrator	Supports generation of application requirements. Adds application-specific entities or objects to the application data model originally taken from the enterprise-wide data model.

De digitalisering van de rechtspraak moet opnieuw worden gedaan, maar dan minder ambitieus. Digitaal procederen komt er voorlopig niet. Het huidige digitaliseringsproject Kwaliteit en Innovatie (KEI) wordt stopgezet. [Dat schrijft](#) de Raad voor de rechtspraak, de organisatie van de rechterlijke macht, aan minister Sander Dekker (Rechtsbescherming, VVD).

Het project kostte tot nu toe zo'n 220 miljoen euro, een overschrijding van ruim 200 miljoen van de oorspronkelijke begroting van 7 miljoen euro.

- Precision (e.g., number of decimal places)
- Data item names, abbreviations, and codes
- Characteristics, such as precision, accuracy, timing, and capacity

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# *The Times They Are a-Changin'*

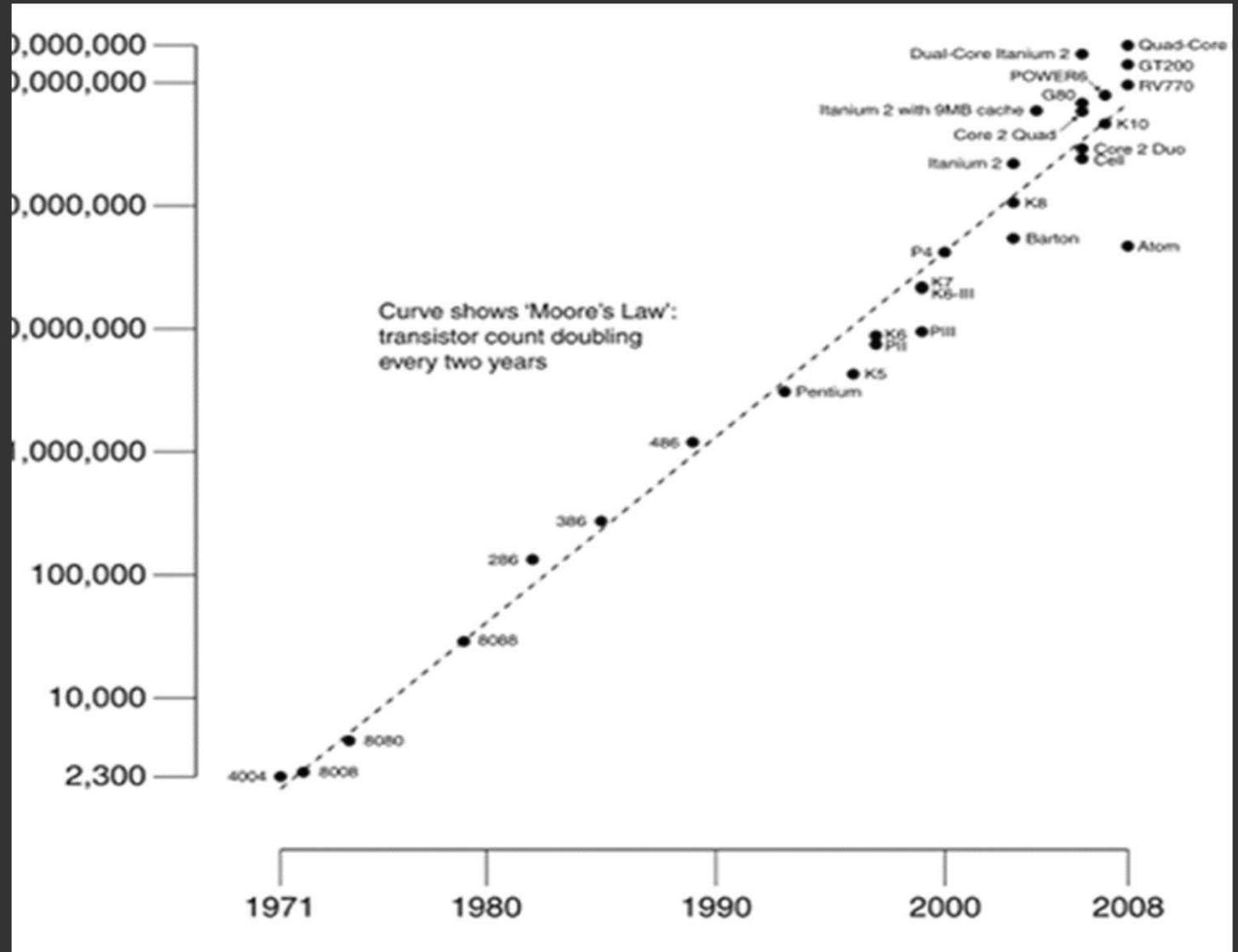
Much faster than you think

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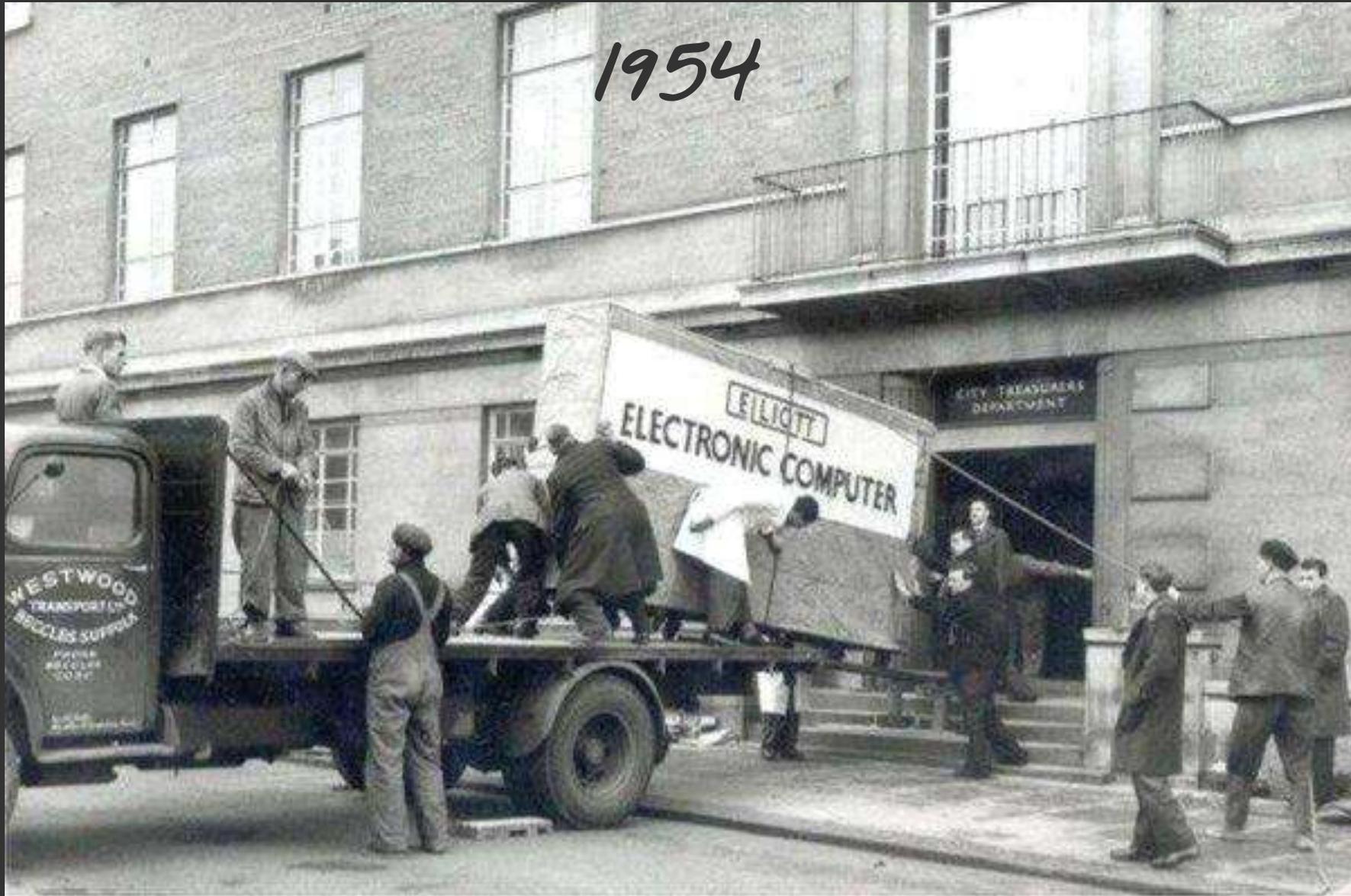
# Moore's Law

The number of transistors in a dense integrated circuit doubles approximately every two years.



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1954



## *The IBM Personal Computer 5150*

The simplest configuration has 16K on-board RAM and uses an audio cassette to load and save data. A floppy drive is optional. A hard drive was not supported.

A system for home or school with a memory of 64K bytes, a single diskette drive and its own display, was priced around \$3,000.

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## Amazon EC2

Then, in 2006, Amazon launched its Elastic Compute cloud (EC2) as a commercial web service that allows small companies and individuals to rent computers on which to run their own computer applications.



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# *About disruption*

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# Fintech challenges

The infographic displays various fintech categories and logos. Categories include: Payments (e.g., Target, Media, PayPro, SENANG), Personal Finance & Planning (e.g., ICEPAY, Smart2Pay, PAVISION, PayU, Simplied, G.M.P.), Insurance (e.g., Omniplan, etlacc, Mylate, Kooopde, inskand, PET, VOOROP, Govin, Insurance), Risk & Compliance (e.g., CuroPlan, advise, My, CyNation, be informed), Consumer Lending (e.g., DDMI, geldshogreep, Gander, HD Connect, bijbouw), Asset Management (e.g., belogin, QUARTIER, BUX, DAI, surence), and DLT & Cryptocurrencies (e.g., CO bit). A footer text reads: "Missing your logo? Let us know! hollandfintech.com/infographic Version January 2018 © Holland FinTech".

## The bank of the

This isn't banking as you know it. More everyone, that works with you, for you  
Join today for your own UK current acco



### ING ziet grootste dreiging in Amazon

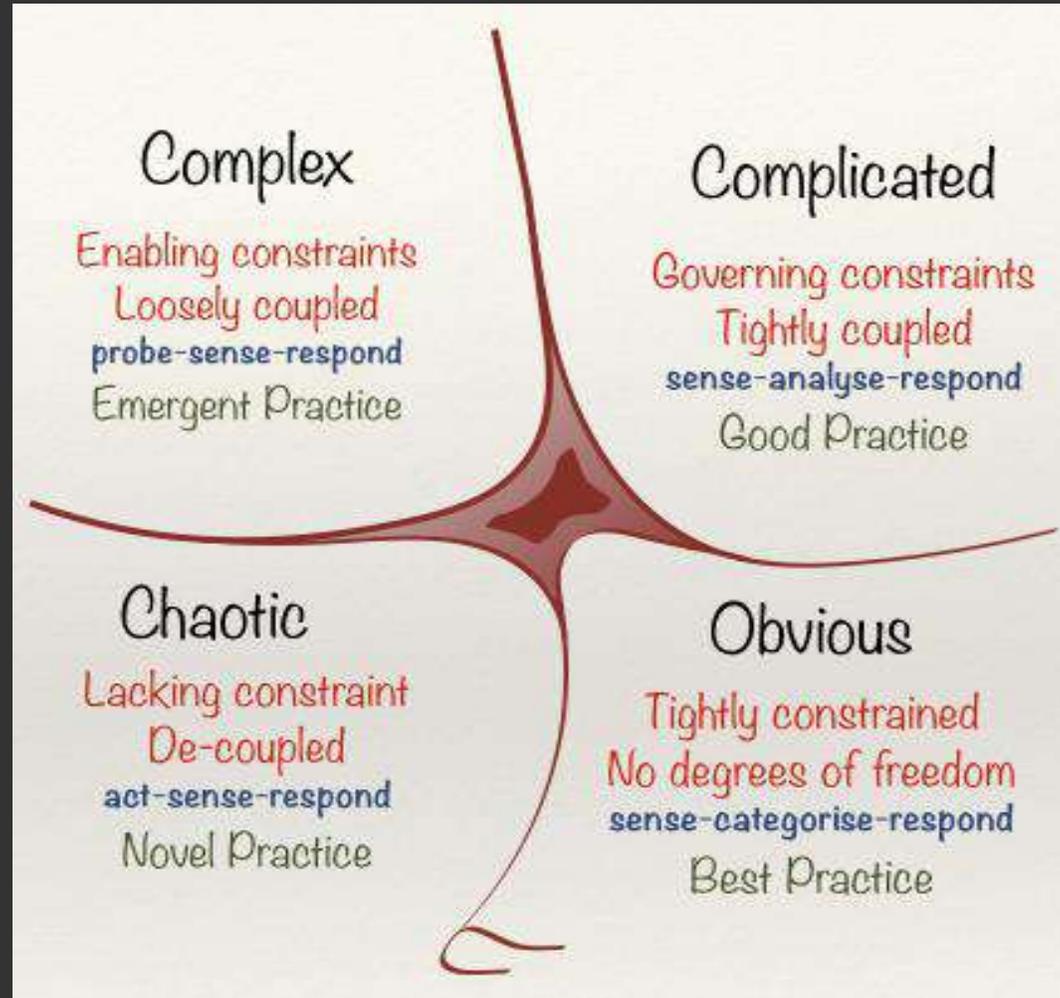
Het grootste gevaar voor de bankenwereld komt niet van start-ups maar van technologie-reuzen als Apple en Amazon, zegt ING-CEO Ralph Hamers.

Fintech, kleine start-ups die de financiële we-

A screenshot of a Business Insider article titled "The best low-cost airline in the world is taking on Amazon and international banking". The article is by Benjamin Zhang, dated Nov. 18, 2017, 9:37 AM, with 8,371 likes. The image shows AirAsia CEO Tony Fernandes (left) and Airbus COO Fabrice Bregier (right) sitting at a table with a model airplane. The background features several women in red uniforms. The article text includes: "AirAsia CEO Tony Fernandes (Left) with Airbus COO Fabrice Bregier." and "AirAsia is the best low-cost airline in the world." and "CEO Tony Fernandes wants to shift the".

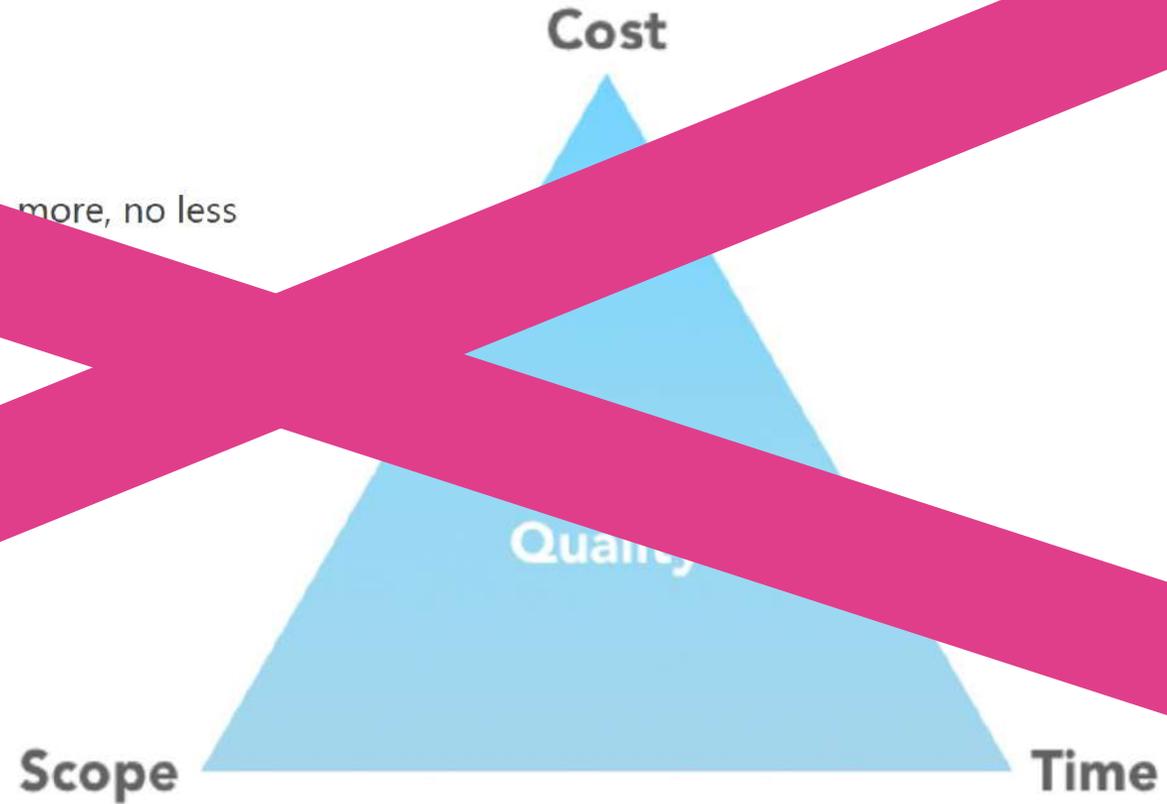
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# Complex problems require continuous exploration



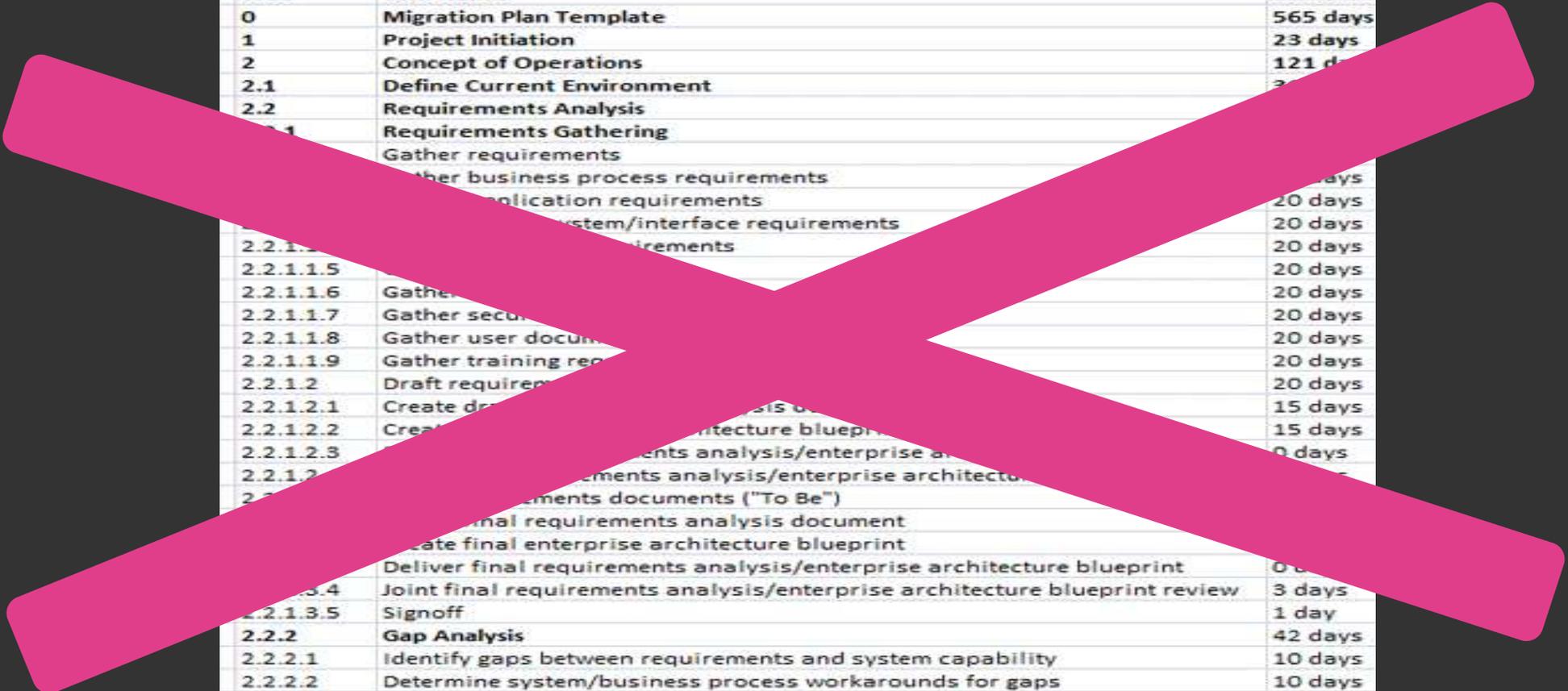
# The iron triangle of project management?

- Projects must be delivered within cost
- Projects must be delivered on time
- Projects must meet customer requirements, more, no less
- Projects must also meet customer expectations



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# Detailed planning?



WBS	Task Name	Duration
0	Migration Plan Template	565 days
1	Project Initiation	23 days
2	Concept of Operations	121 days
2.1	Define Current Environment	30 days
2.2	Requirements Analysis	100 days
2.2.1	Requirements Gathering	100 days
	Gather requirements	20 days
	Gather business process requirements	20 days
	Gather application requirements	20 days
	Gather system/interface requirements	20 days
2.2.1.1	Gather user requirements	20 days
2.2.1.1.5	Gather user requirements	20 days
2.2.1.1.6	Gather security requirements	20 days
2.2.1.1.7	Gather security requirements	20 days
2.2.1.1.8	Gather user documents	20 days
2.2.1.1.9	Gather training requirements	20 days
2.2.1.2	Draft requirements analysis/enterprise architecture blueprint	20 days
2.2.1.2.1	Create draft requirements analysis/enterprise architecture blueprint	15 days
2.2.1.2.2	Create draft requirements analysis/enterprise architecture blueprint	15 days
2.2.1.2.3	Create draft requirements analysis/enterprise architecture blueprint	10 days
2.2.1.2.4	Create draft requirements analysis/enterprise architecture blueprint	10 days
2.2.1.3	Final requirements analysis/enterprise architecture blueprint	100 days
	Final requirements analysis/enterprise architecture blueprint	100 days
	Final requirements analysis/enterprise architecture blueprint	100 days
	Final requirements analysis/enterprise architecture blueprint	100 days
2.2.1.3.4	Joint final requirements analysis/enterprise architecture blueprint review	3 days
2.2.1.3.5	Signoff	1 day
2.2.2	Gap Analysis	42 days
2.2.2.1	Identify gaps between requirements and system capability	10 days
2.2.2.2	Determine system/business process workarounds for gaps	10 days
2.2.2.3	Determine high level customization to address gaps	5 days

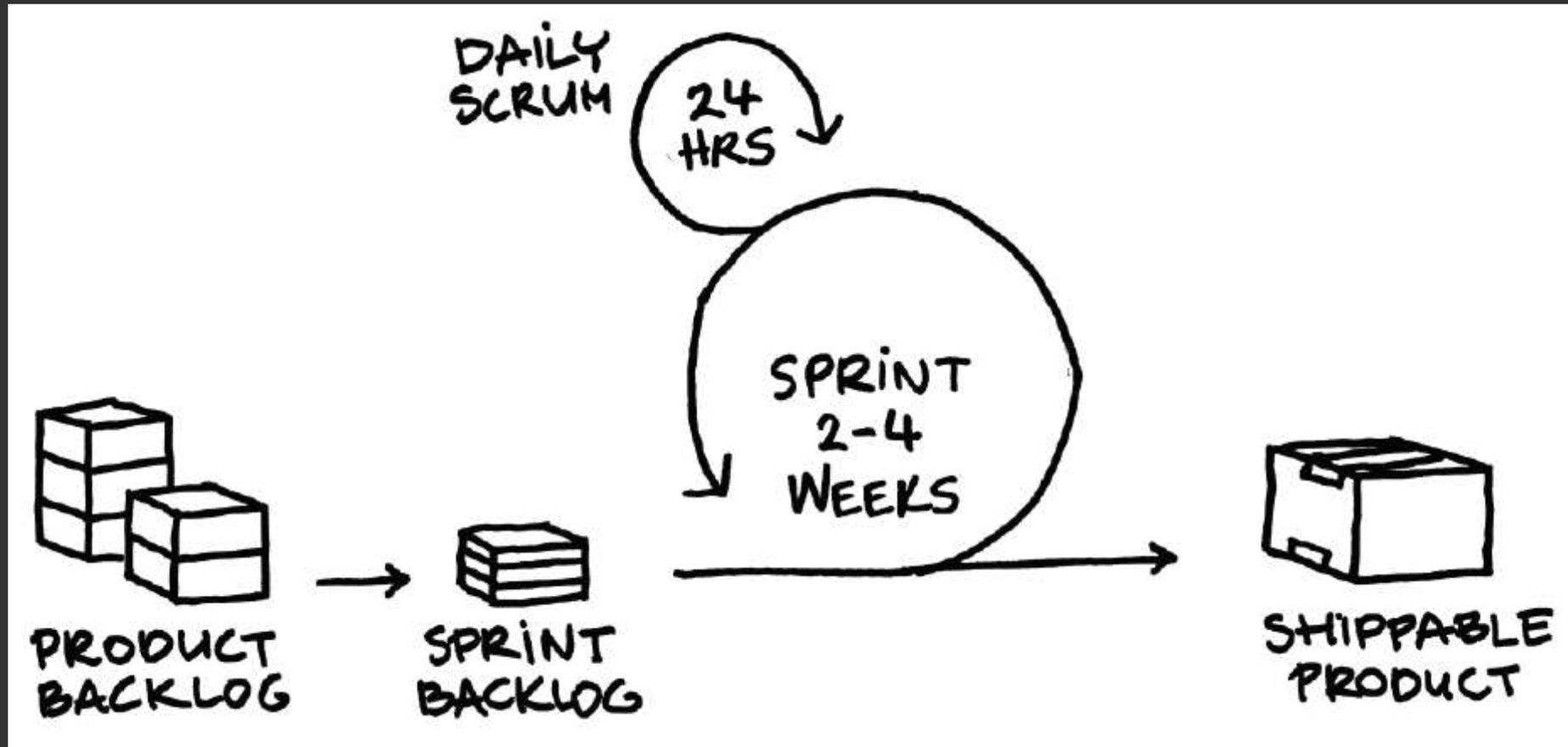
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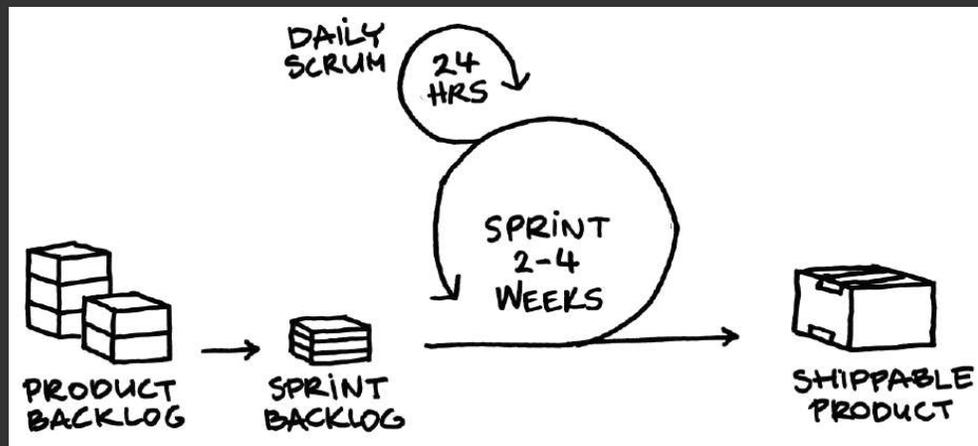
*The framework  
doesn't work*

# What does being agile really mean?



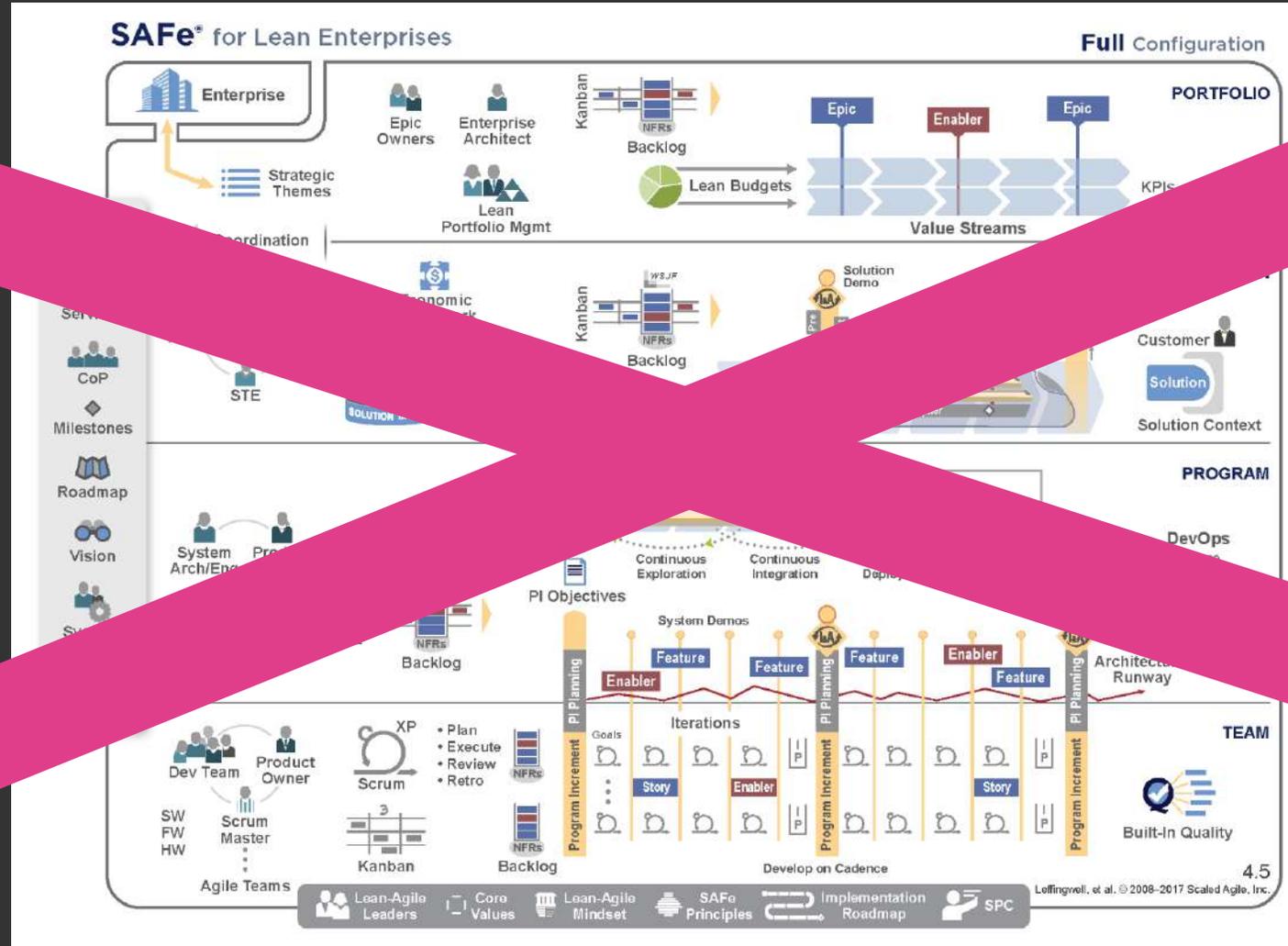
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# Does agile scale?

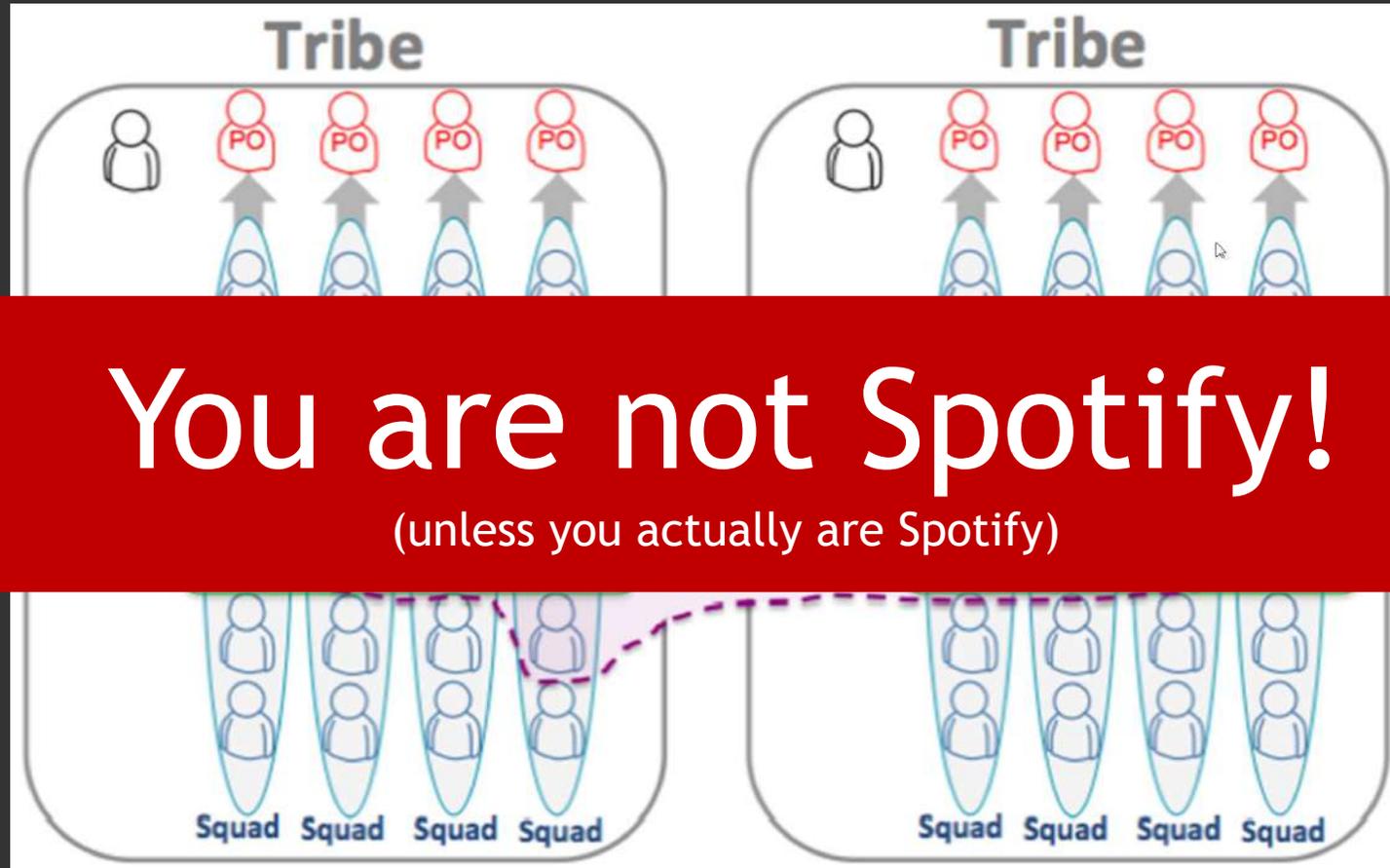


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# Enterprise agile transformations?



*Let's all copy Spotify!*



**You are not Spotify!**

(unless you actually are Spotify)

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*Find your  
own way!*

Don't just copy  
someone else's model

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# *Traditional agile does not solve modern problems*

Optimize for speed, agility and adaptability



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Issue 0  
Autonomy and  
self-organization



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## *Autonomy at work*

Decide  
what to do,  
when to do it  
and how to do it

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# *Autonomous teams?*



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# Mandatory fun



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# Self-organization is hard



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# How to draw an owl

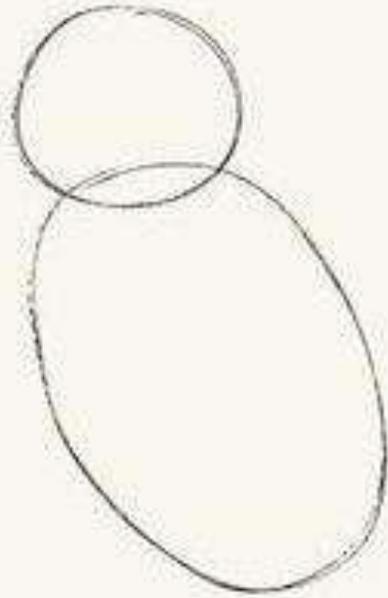


Fig 1. Draw two circles



Fig 2. Draw the rest of the damn Owl

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*Less rules*

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Medan, Indonesia. September 2018



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# *De Meern, The Netherlands. July 2018*



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## *Issue 1*

9-to-5  
doesn't really work

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## Issue 2

# The programmers mind

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*Edsger Dijkstra*

The programmer has to be able to think in terms of conceptual hierarchies that are much deeper than a single mind ever needed to face before.

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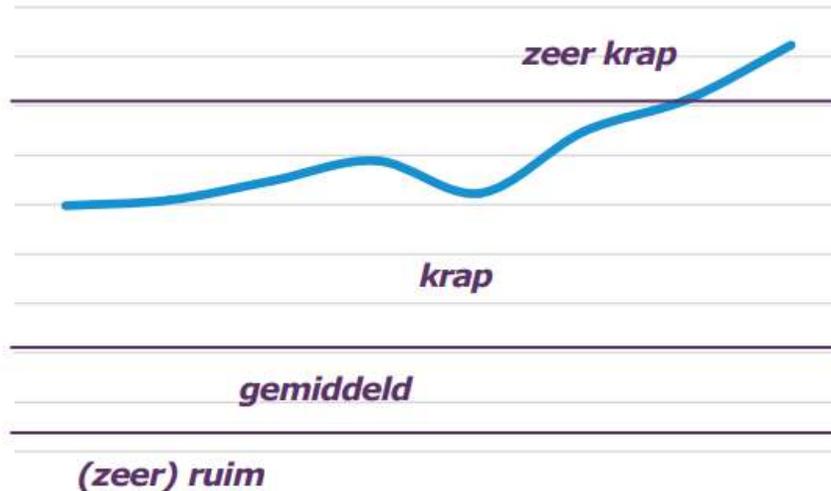
## Issue 3

Low availability  
of "resources"

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# Low availability

## Ontwikkeling spanning ict-arbeidsmarkt 2016-2017, spanningsindicator UWV



(zeer) ruim			
Q1	Q2	Q3	Q4
2016			
Q1	Q2	Q3	Q4
2017			

Bron: UWV

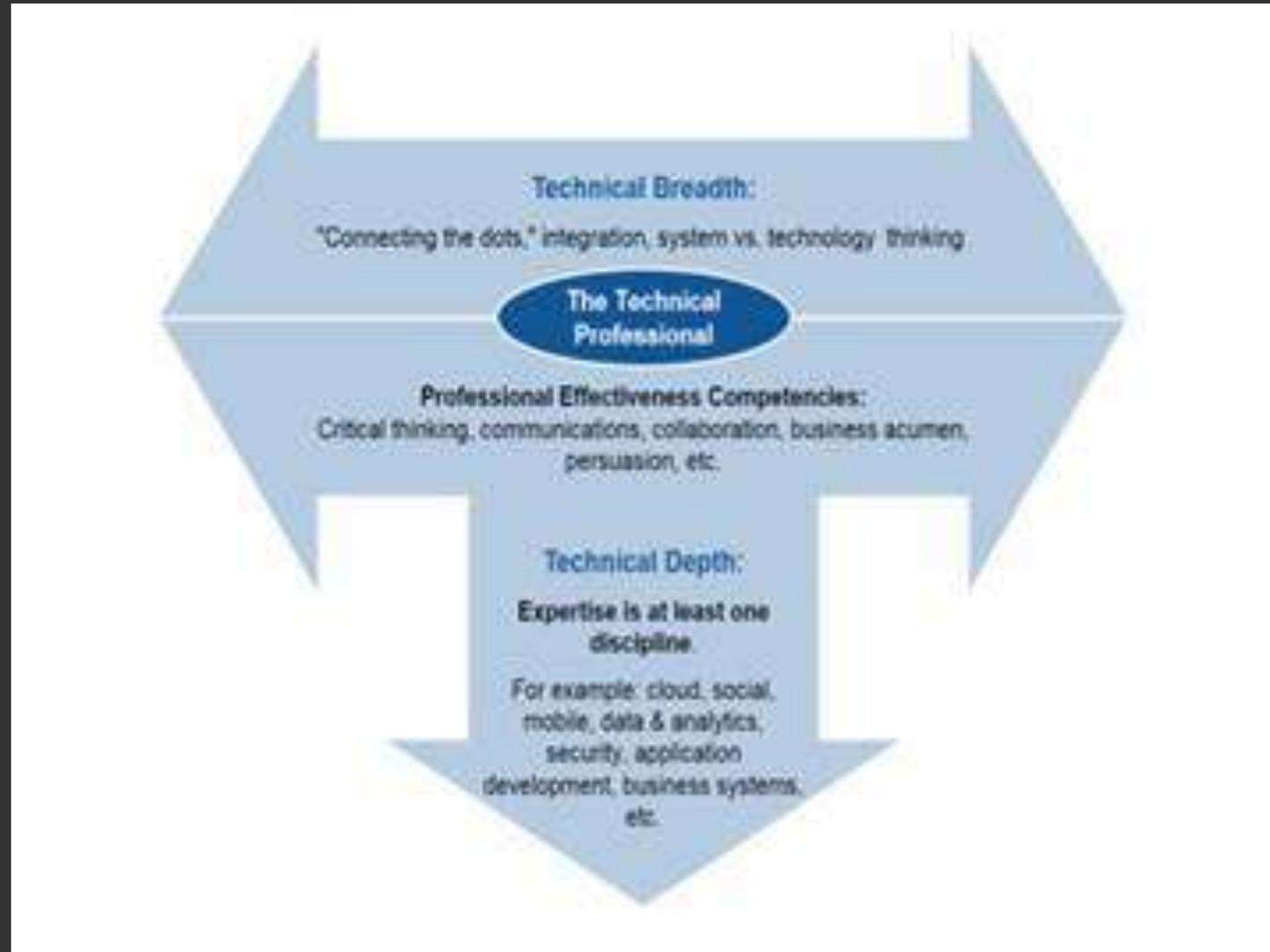
## Een zeer krappe arbeidsmarkt

De spanning op de ict-arbeidsmarkt loopt verder op. In de tweede helft van 2017 is er zelfs sprake van een **zeer krappe arbeidsmarkt**. Geen enkele andere beroepsrichting kent zo'n sterke mate van krapte. Hoe krapper de arbeidsmarkt, hoe minder kortdurend werkzoekenden er beschikbaar zijn per openstaande vacature.

Een zeer krappe arbeidsmarkt voor ict'ers betekent **grote wervingsproblemen** voor werkgevers.

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# The T-shaped professional





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## Issue 4

# Communication is hard

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# *Too many meetings, too many rituals*

Sprint planning

Refinement sessions

Daily stand-ups

Management meetings

Informal management meetings

Demo's

Retrospectives

Release focus periods

Lots of wacky video calls

Backlog grooming

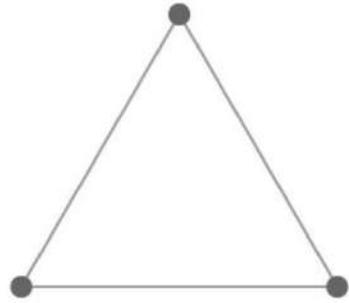
T-shirt sizing

Open floor plans didn't work for everybody

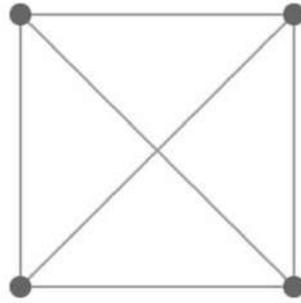
Managers where managing processes (again)

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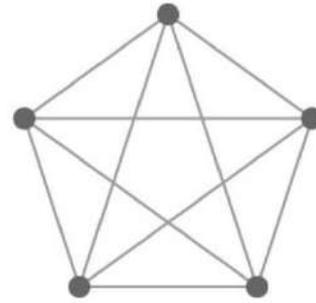
# Clear communication is Key



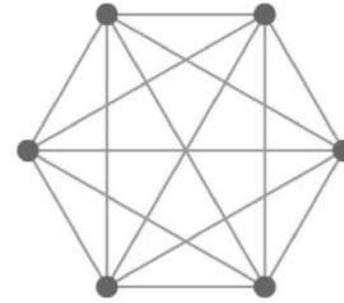
3 people, 3 lines



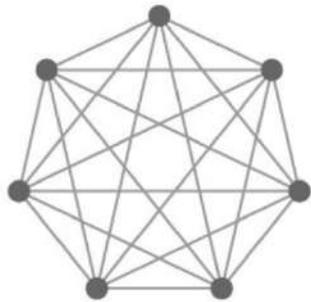
4 people, 6 lines



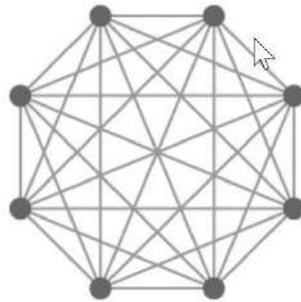
5 people, 10 lines



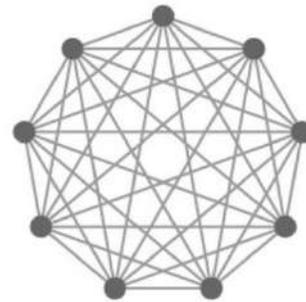
6 people, 15 lines



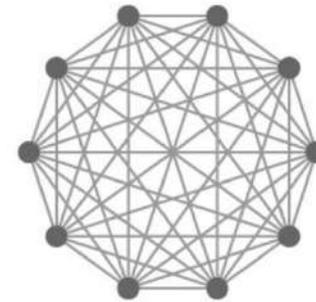
7 people, 21 lines



8 people, 28 lines



9 people, 36 lines



10 people, 45 lines

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*We don't need more collaboration,  
we need better collaboration*





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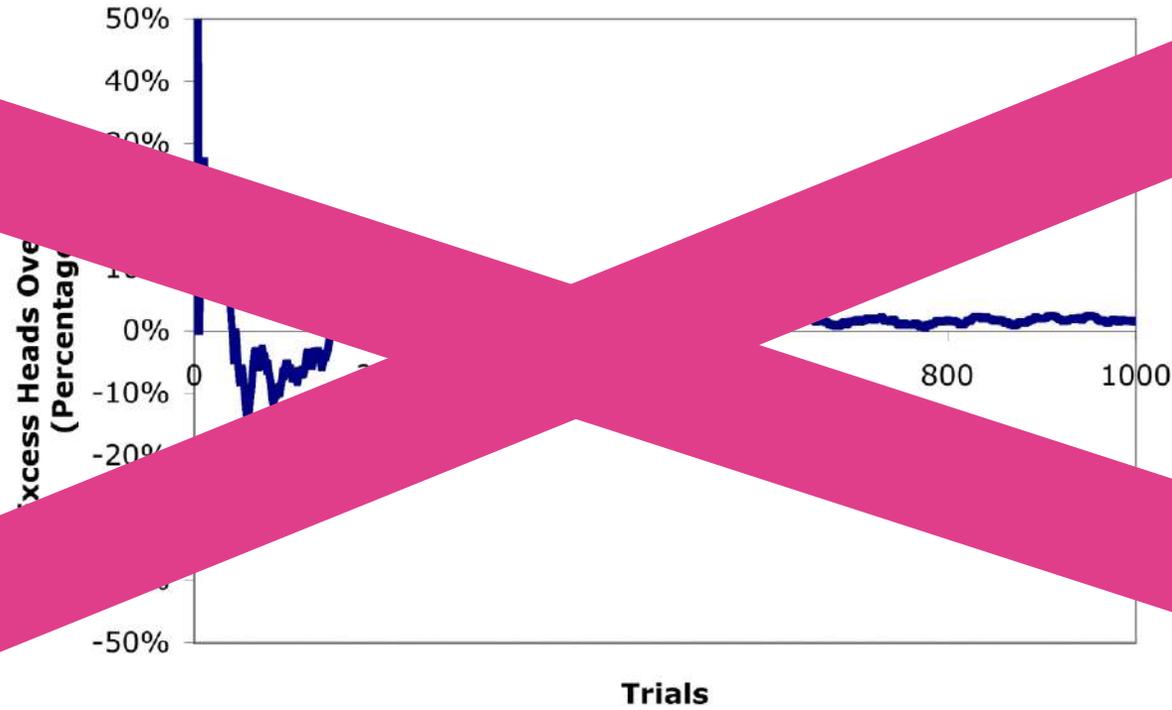
## Issue 5

We suck  
at estimation

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Less estimates

### The Law of Large Numbers



In probability theory, the law of large numbers states that as the number of trials increases, the observed frequency of an event will converge to its expected value. According to the law, the results of a random experiment will become closer to the expected value as more trials are performed. The LLN is important because it provides a theoretical foundation for the concept of probability.

When you perform a large number of trials, the results will tend to approach the expected value. For example, if you flip a coin 1000 times, the number of heads will be very close to 500. In a casino, the law of large numbers explains why the house always wins in the long run, while a casino may lose in the short run.

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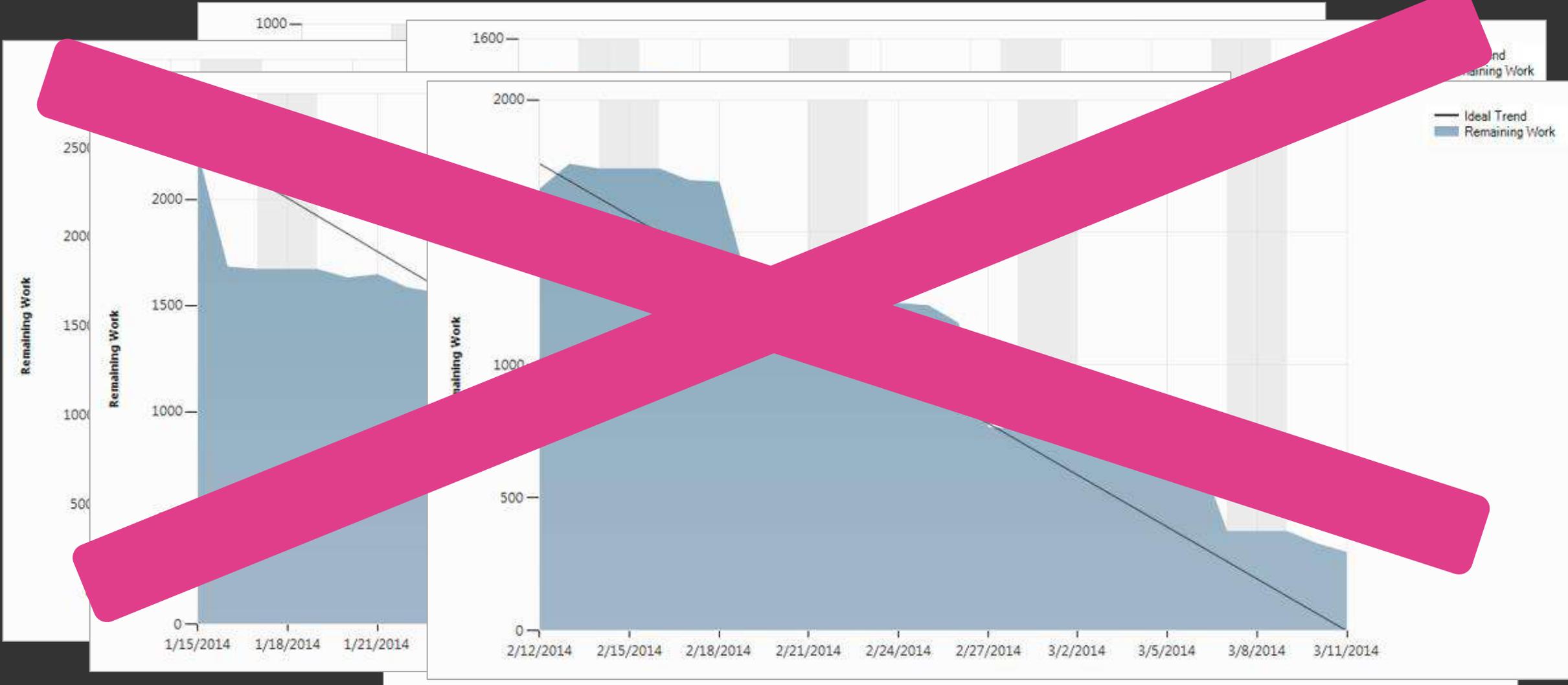
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## Issue 6

### Red sprints

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# The red sprint anti-pattern



# *The agile manifesto*

To satisfy the customer through early and continuous delivery of valuable software

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## Issue 7

Software development  
is too complex for  
a 6-plus-or-minus-3 team

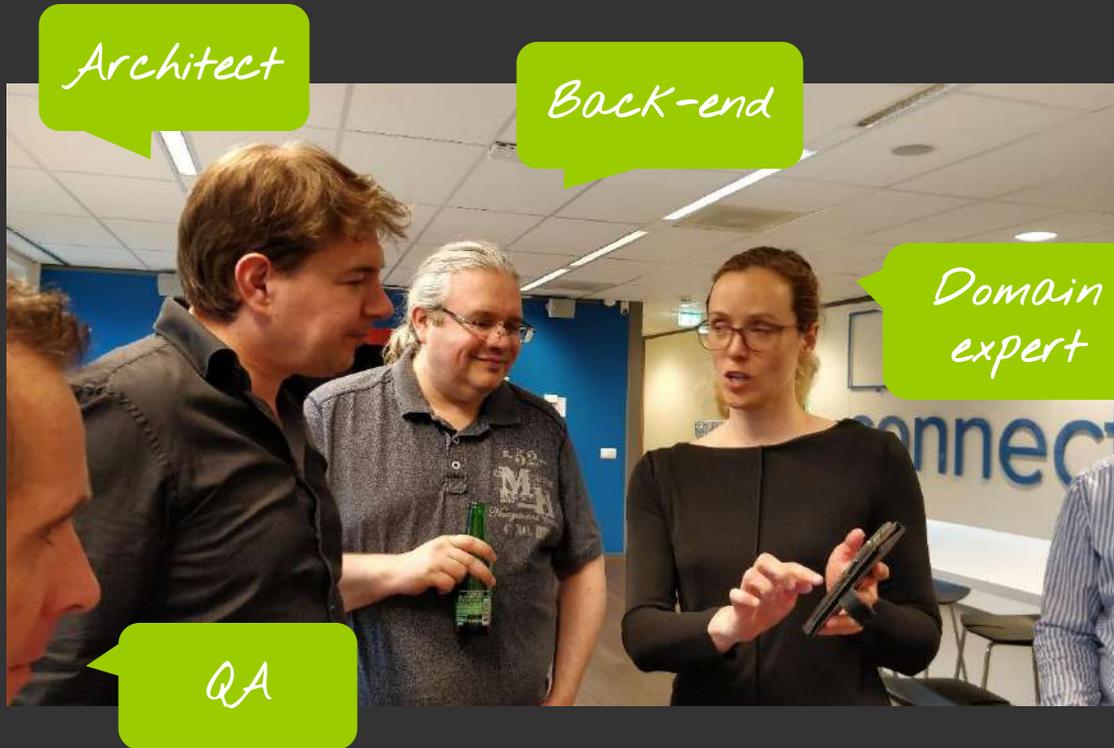
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# Software development is complex



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# No two work items require the same skillset



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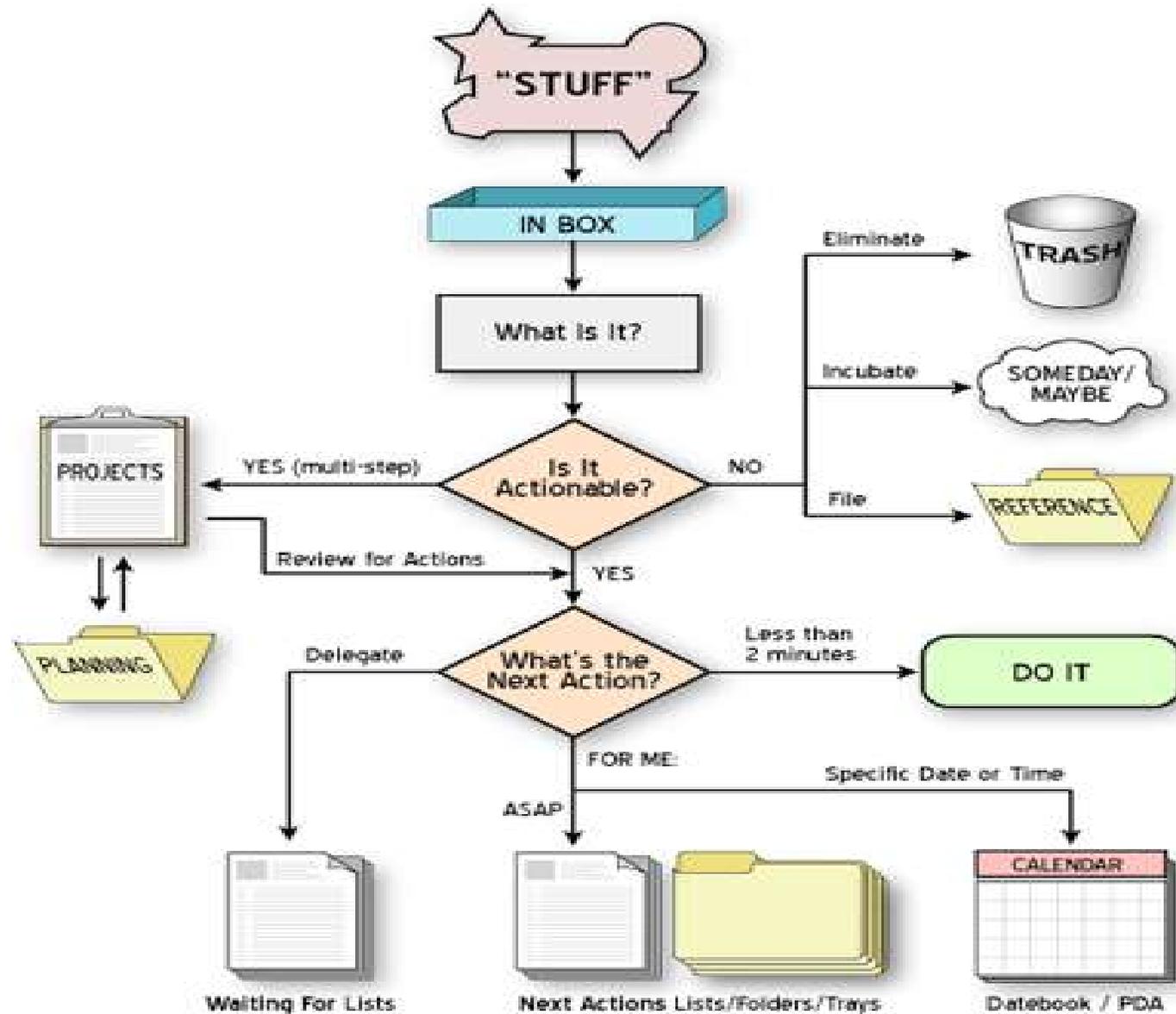
# "ROADMAP" UPK fase 1 - versie 15-1-2015

*Optimize for speed,  
agility and adaptability*

DOMEIN	CLUSTER / DEELFASE
UPK-v	ORV - Registreren Mutatie - aanvragen, wijzigen, beëindigen, PVA (niet afgerond)
UPK-v/UPK-p	ORV - Registreren Mutatie - overeenkomstcomponent, productcomponent
UPK-p	ORV - Registreren Mutatie - berekenen PVA, waardenoverzicht (niet volledig afgerond)
UPK-v/UPK-p	ORV - Registreren Mutatie - tussentijds opslaan, documenten, premiecomponent, (niet afgerond)

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The innovation board and the funnel



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# *Introducing collectives and microteams*

Towards smaller, shorter, faster

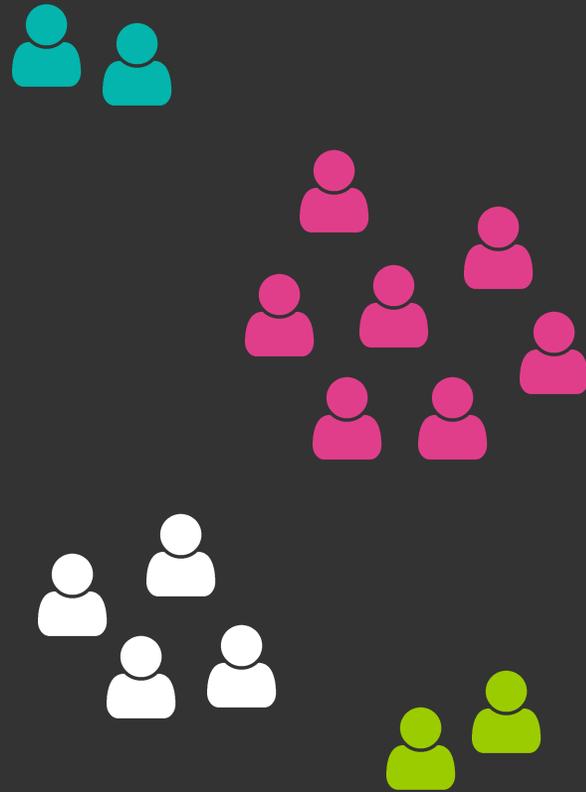
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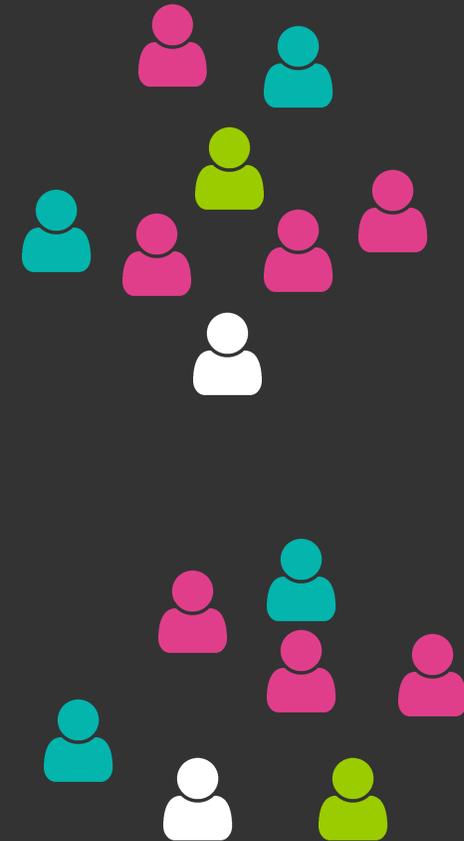
## *Collectives*

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# Traditional teams



# Agile teams



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# *The New Cool Collective*

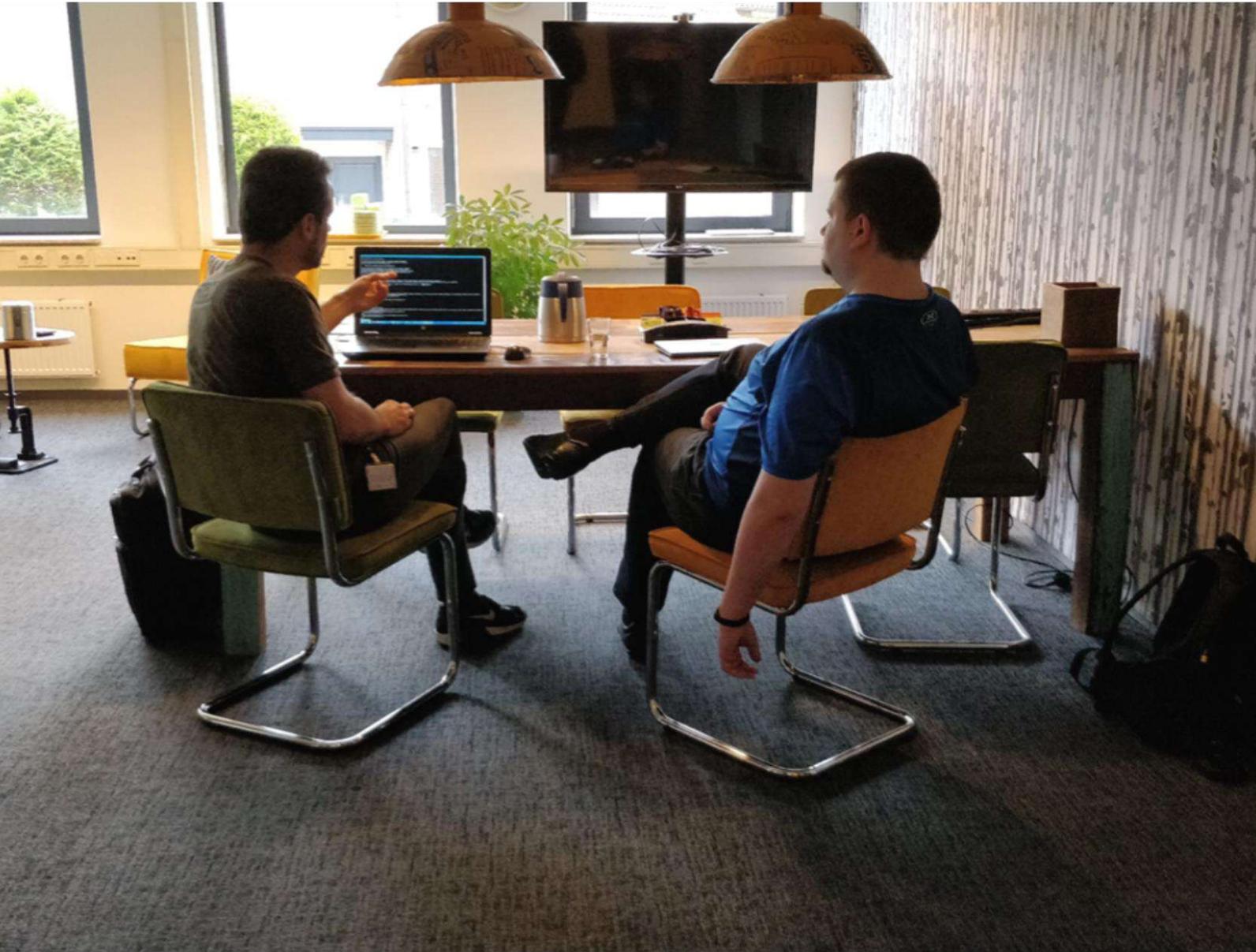


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# The collective



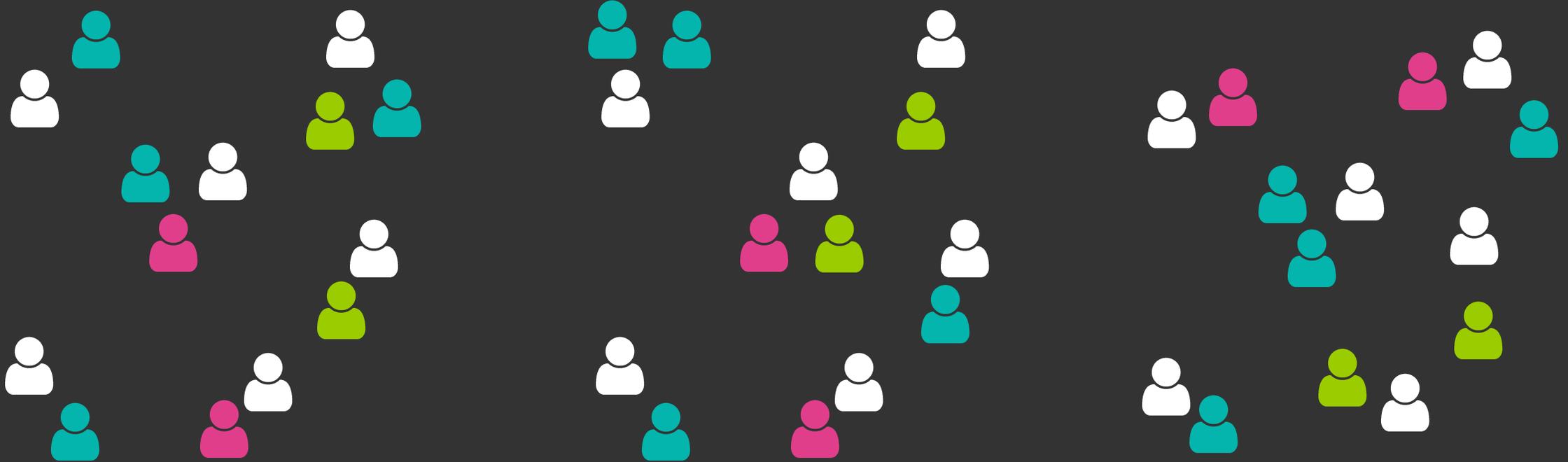
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*Microteams*

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# Microteams



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## *The microteam recipe*

1. Pick
2. Form
3. Discuss
4. Work
5. Report as done
6. Disband
7. Repeat

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*Leadership  
is contextual*

Decentralize  
decision making

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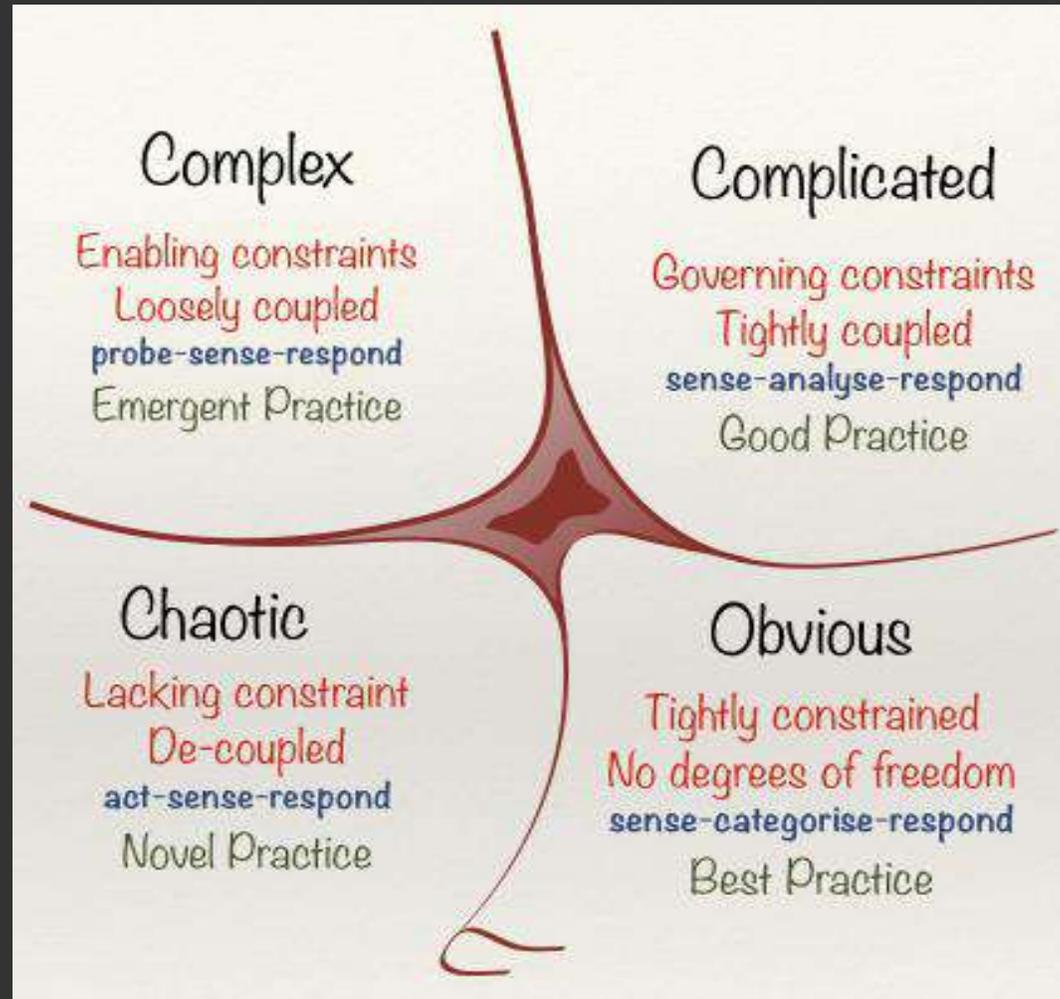


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## *In retrospective* Some final thoughts

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# Complex problems require continuous exploration



*Beyond the point of no return*



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*It only takes one person  
to start a change*



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*Never stop learning*

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And never forget to have fun

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*We are hiring!*



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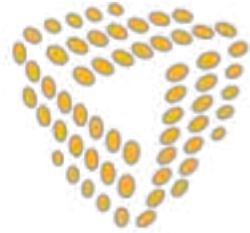
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