

Workshop: “VET schools in times of disruptive technologies”

- Opening (promo) welkom, voorstellen, programma
- Presentatie technologies, digital transformation, ontwikkelingen groen en scholen
- 2 pitches: cross-overs en hot-spot
- Workshop
- Wrap up
- Afsluiting

Amazon kills it's A.I. recruitment system as it exhibited bias against women

Amazon Inc's machine-learning specialists uncovered a big problem: *their new recruiting engine did not like women.*

The company's experimental hiring tool was used for job applicants' resumes with the aim of mechanizing the search for top talent.

Artificial intelligence is used to give job candidates scores ranging from one to five stars. Amazon's computer models were trained to vet applicants by observing patterns in resumes submitted to the company over a 10-year period. Most came from men, a reflection of male dominance across the tech industry. In effect, Amazon's system taught itself that male candidates were preferable.



VET schools
in times of disruptive
technologies

World Horti Centre



Technologie that excists



Robots getting smarter



Coming soon

Floating farm



Vertical farming



Wireless services, how fast are they?

GPRS 1997 50 Kbps	EDGE 1998 250 Kbps	3G 2001 384 Kbps	4G 2009 150 Mbps	5G 2020 6400 Mbps
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5G Fieldlabs

KPN Precisielandbouw



TRANSFORMING DIGITAL INFORMATION





Digitization

The process of making information available and accessible in a digital format.

Digitalization

The process of considering how best to apply digitized information to simplify specific operations.



Digital Transformation

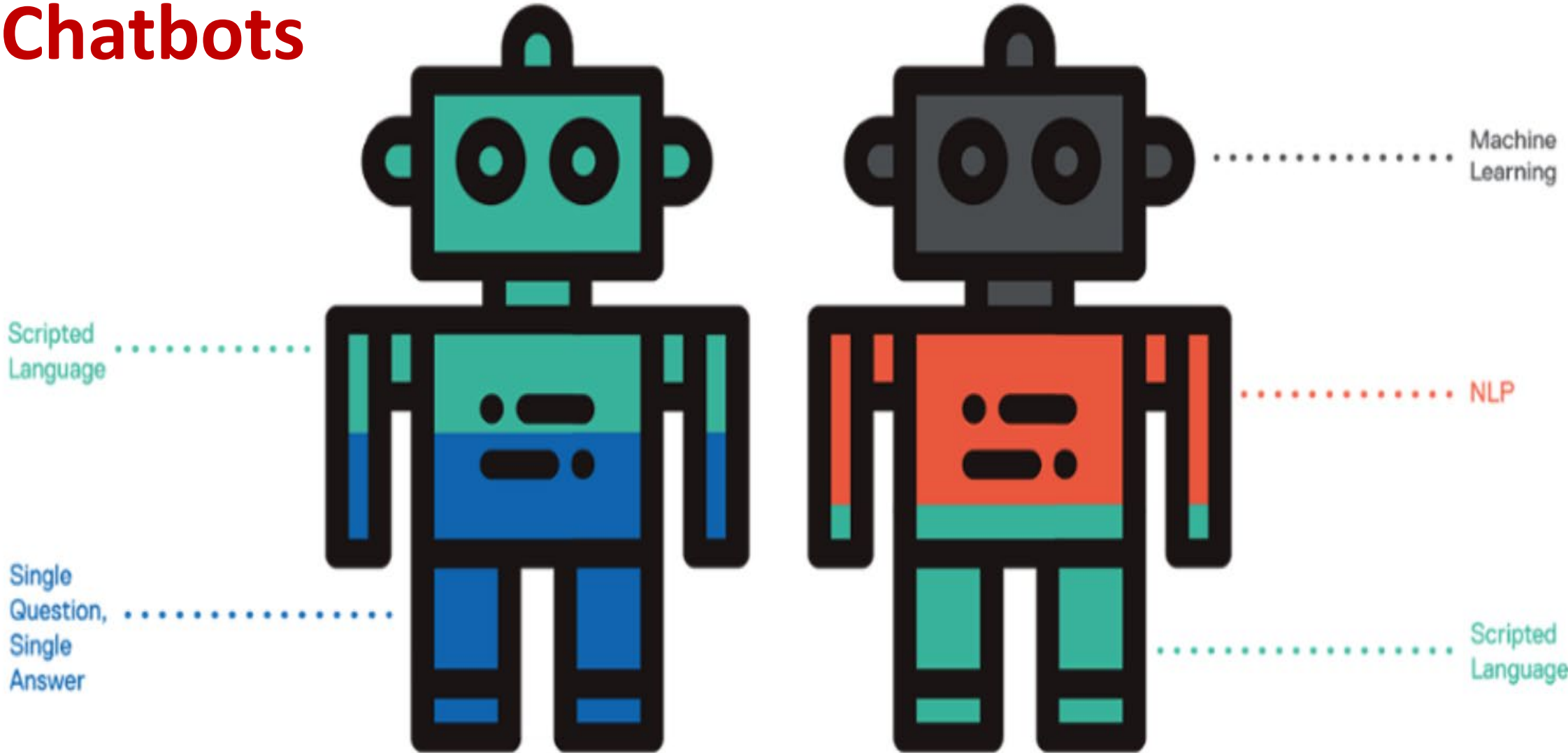
The process of devising new business applications that integrate all the digitized data and digitalized applications.

Digital transformation: Taking advantage of digitalization to create completely new business concepts

Chatbots – talking to you...

- Answering questions about product information, allergies, preparing, healthcare...
- Dialogue
- Supporting by preparing menu's in questions/ answers
- Searching for shops in database
- Google-maps
- Facebook Messenger, Skype, Yahoo, Google Talk, Telegram, WhatsApp en Slack (cloud-based-groupware)
- Chatbot as a buddy (Instant Messenger-program)

Chatbots



Basic Bot

Advanced Bot

Partijen die chat-bot-principe gebruiken



Voor het zoeken naar banen die bij je passen (eind 2018)



HEALTH & PERSONAL CARE

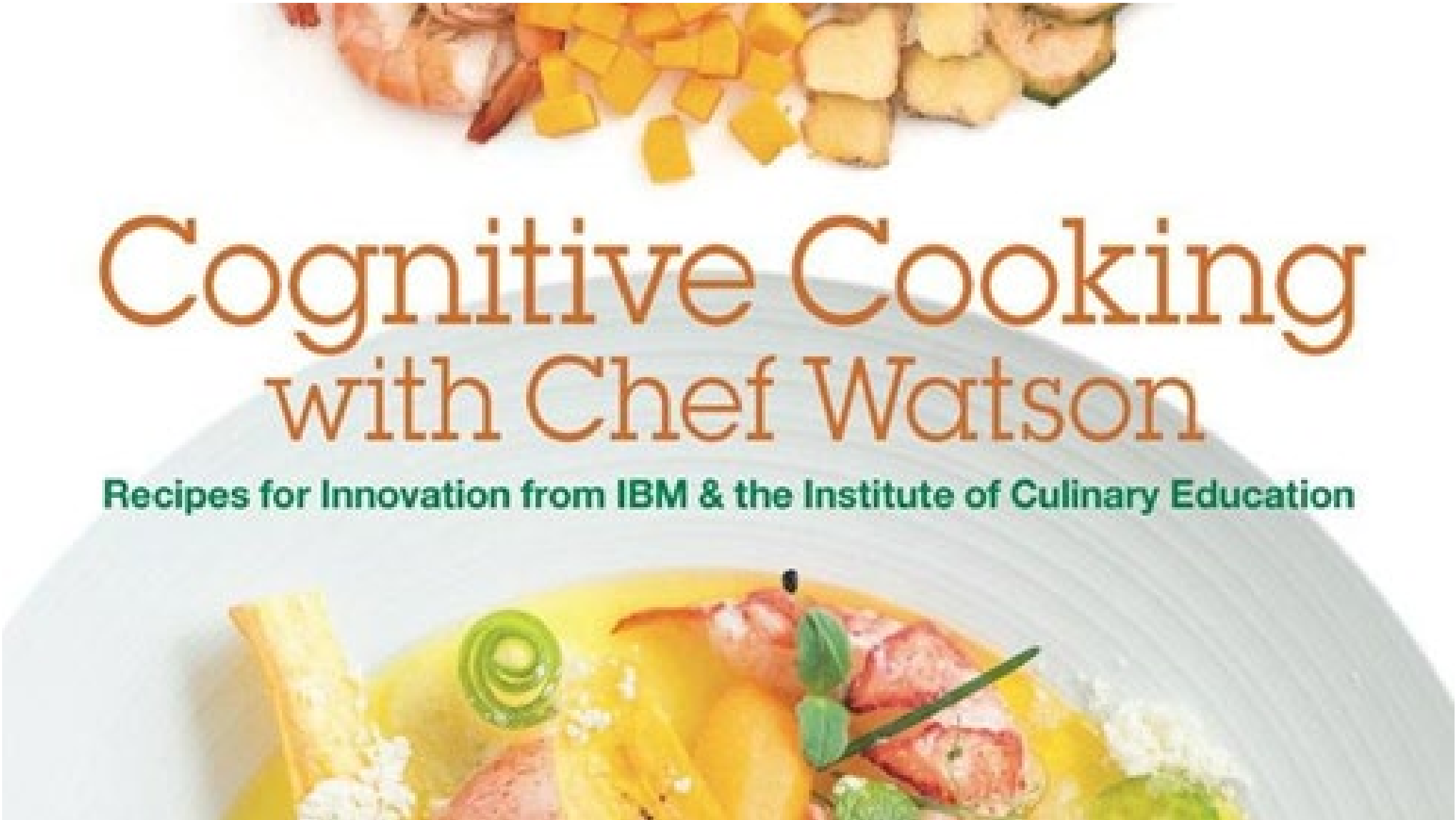
Keten voor gezondheidszorg

Pilot in Amerika met 840.000 werknemers

Met computers – beste kok ter wereld

Cognitive Cooking with Chef Watson

Recipes for Innovation from IBM & the Institute of Culinary Education

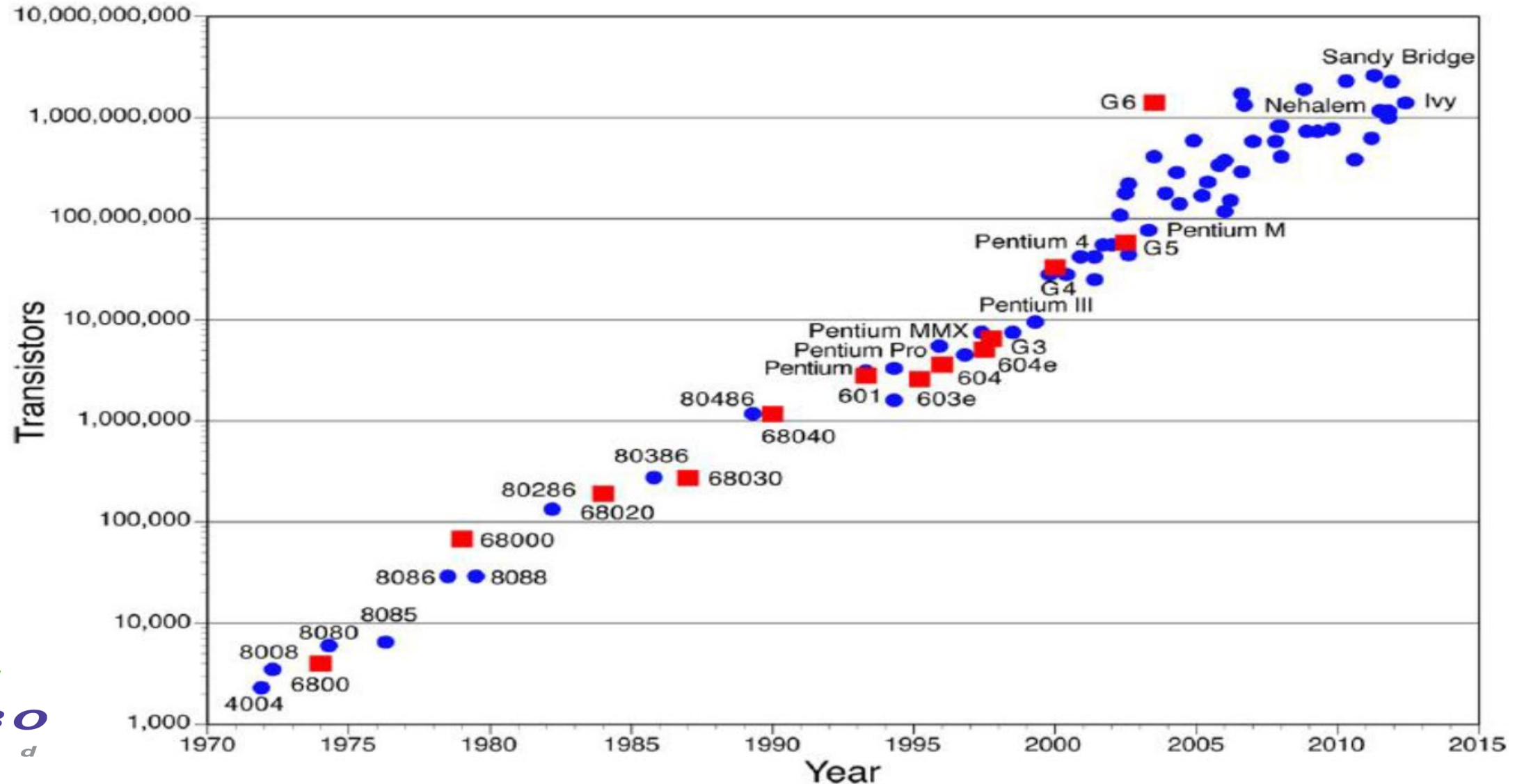




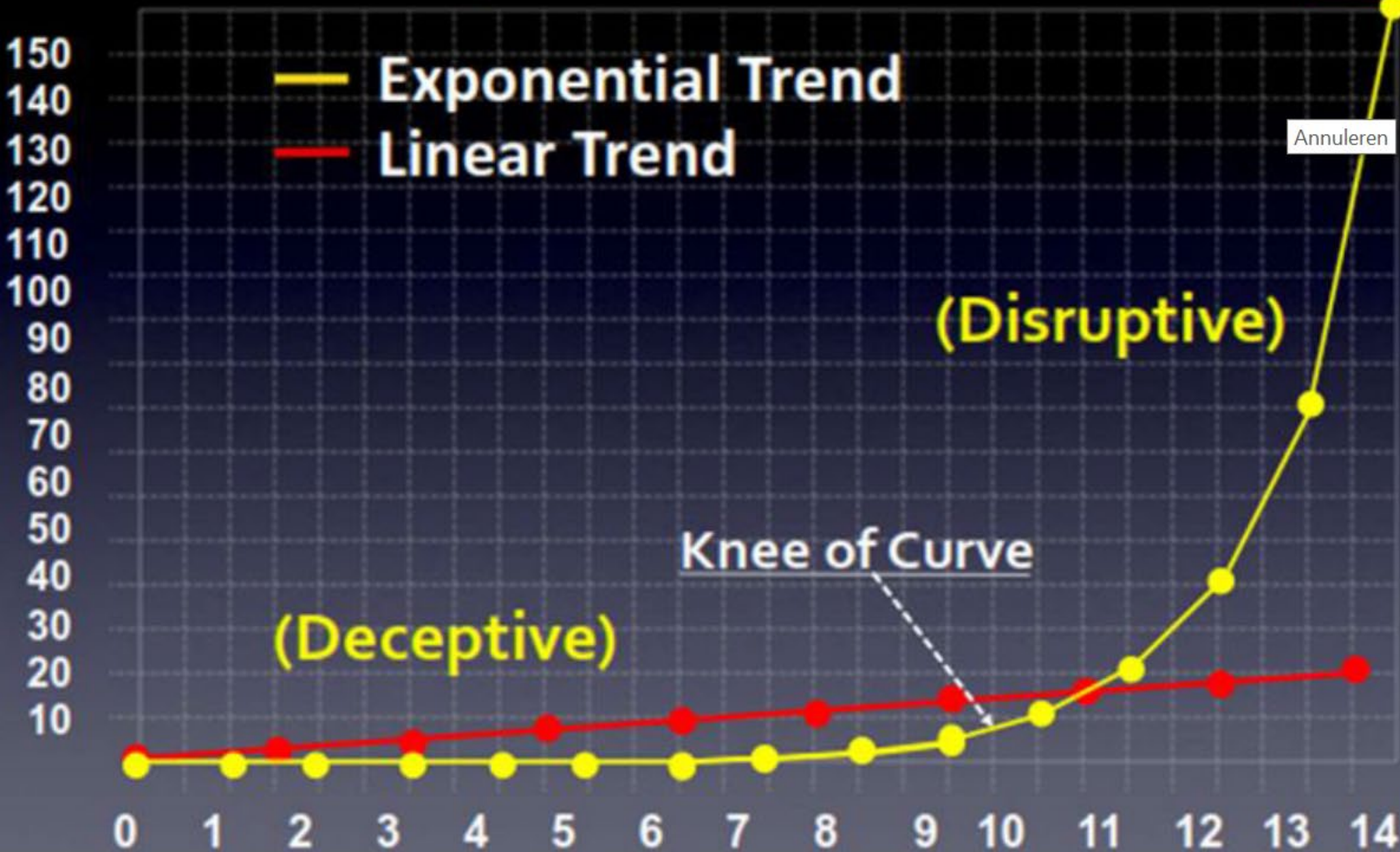
**Een nieuwe opleiding
arbeidsmarktbehoefte - dossier - gediplomeerde
duurt 6-8 jaar**



Technologie processors ontwikkelt exponentieel



Linear Vs. Exponential Growth



0	0.01
1	0.02
2	0.04
3	0.08
4	0.16
5	0.32
6	0.64
7	1.28
8	2.56
9	5.12
10	10.2
11	20.5
12	40.9
13	81.9

Experiment Wembley - snelheid ontwikkelingen



- Elke minuut verdubbelen van het aantal druppels
- Na hoeveel tijd is het stadion vol?

Ieder minuut dubbel aantal regendruppels

- Na 6 minuten een vingerhoed vol (64 druppels)
- Een papieren beker is vol na 14 minuten
- Een emmer na 21 minuten
- Na 36 minuten heb je een reddingsvest nodig, want dan staat er 2500 m³ water in het stadion
- Na 46 minuten is het Wembley-stadion gevuld met water
(*Wet van Moore*)

Platform: de ondernemingsvorm van de toekomst

Air
B&B

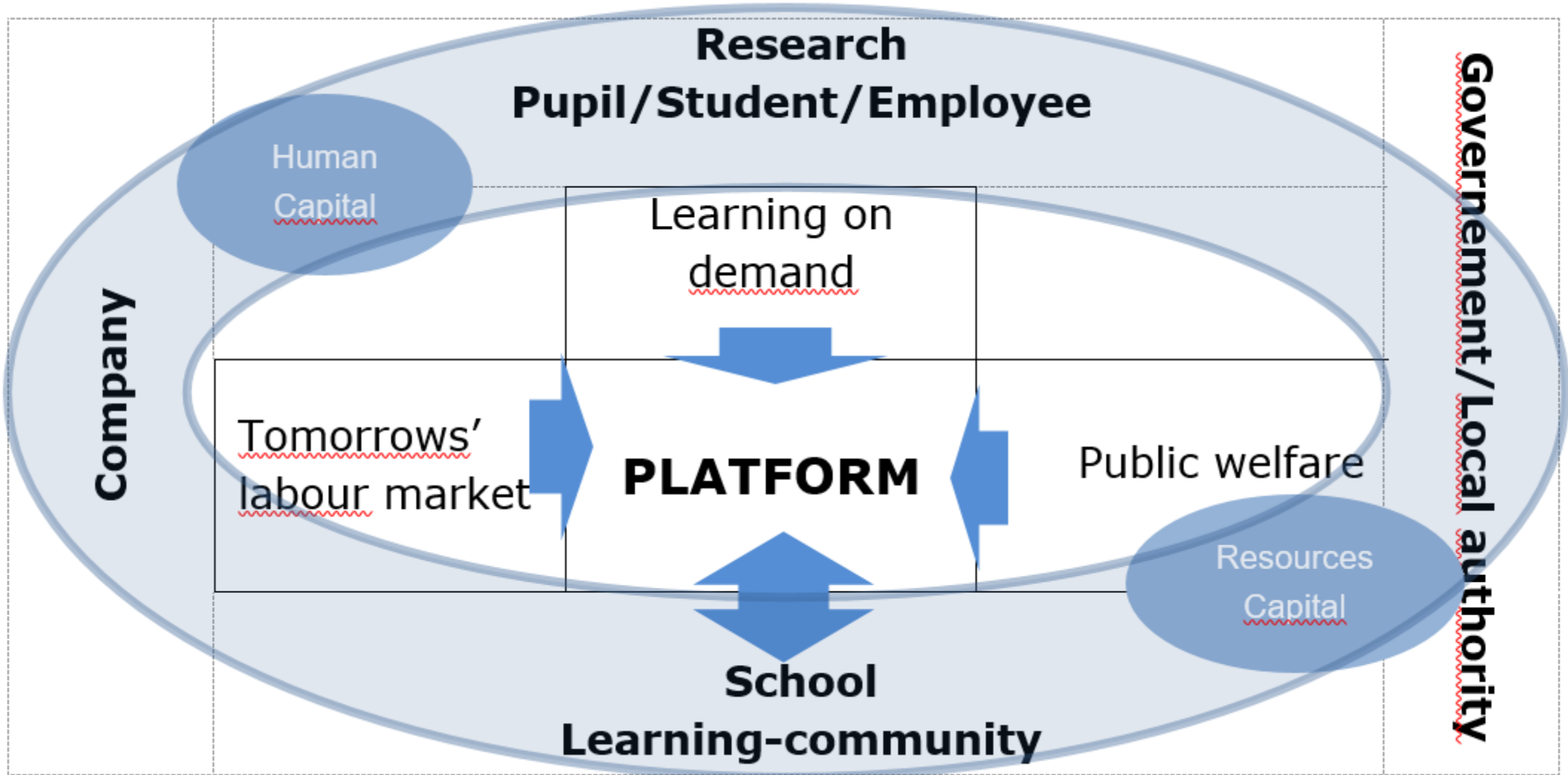
Uber

FabLabs

Tencent

FaceBook

MOOC's



De arbeidsmarkt van morgen

- Van beroep naar arbeidsmarkt
- Digitale geletterdheid/ Big data
- Productieve consument/ platforms/ netwerken
- Waardepropositie van arbeid
- Denken vanuit eindproduct
- Het werk gaat veranderen (beroepen verdwijnen)
- Context waarin we ons met elkaar bewegen
- Duurzame inzetbaarheid
- Duurzaamheid van diploma's en certificaten
- Skills is belangrijker (bijv. 21st century) dan kennis

Goed onderwijs volgens studenten

1. Laat het mijn onderwijs zijn (gepersonaliseerd onderwijs)
2. Niet online (dat doen we thuis wel), school is om te leren
3. Geen vakleraar, maar een coach/ inspirator
4. Echte dingen doen
5. Nuttige dingen/vaardigheden leren
6. Hulp om te willen leren

Rol van de overheid voor onderwijs:

1. *Onderwijs als fundament ('stock')*
kwalitatief hoogstaand basisonderwijs, voortgezet en beroepsonderwijs
2. *Regelingen die transities versoepelen ('flow')*
leer-werktrajecten, post-initiële om- en bijscholing; regelingen voor ouders, mantelzorgers (voor, tussen en naschools)
3. *Een vangnet ('buffer')*
sociale bescherming blijft cruciaal, maar samen met re-integratie op maat

Uitdaging voor de scholen

- Antwoorden op ontwikkelingen in de wereld
- Antwoorden op vragen uit de omgeving
- Andere doelgroepen
- Andere concurrenten
- Anders gaan denken over opleiden
- Van beroepsgericht naar *“klaar voor arbeidsmarkt”*
- Meer alert zijn op (gebruik van) moderne technieken

Platforms – netwerken – omgeving gebruiken



There are more brains outside your
company than in your company



1. EINDE AAN ARMOEDE



2. EINDE AAN HONGER



3. GEZONDHEID EN WELZIJN



4. GOED ONDERWIJS



5. VROUWEN EN MANNEN
GELIJK



6. SCHOON DRINKWATER EN
GOEDE SANITAIRE
VOORZIENINGEN



7. DUURZAME EN
BETAALBARE ENERGIE



8. FATSOENLIJKE BANEN EN
ECONOMISCHE GROEI



9. INNOVATIE EN DUURZAME
INFRASTRUCTUUR



10. MINDER ONGELIJKHEID



11. VEILIGE EN DUURZAME
STEDEN



12. DUURZAME CONSUMPTIE
EN PRODUCTIE



13. KLIMAATVERANDERING
AANPAKKEN



14. BESCHERMING VAN ZEEËN
EN OCEANEN



15. HERSTEL ECOSYSTEMEN
EN BEHOUD BIODIVERSITEIT



16. VREDE, VEILIGHEID EN
RECHTVAARDIGHEID



17. PARTNERSCHAPPEN VOOR
DE DOELEN

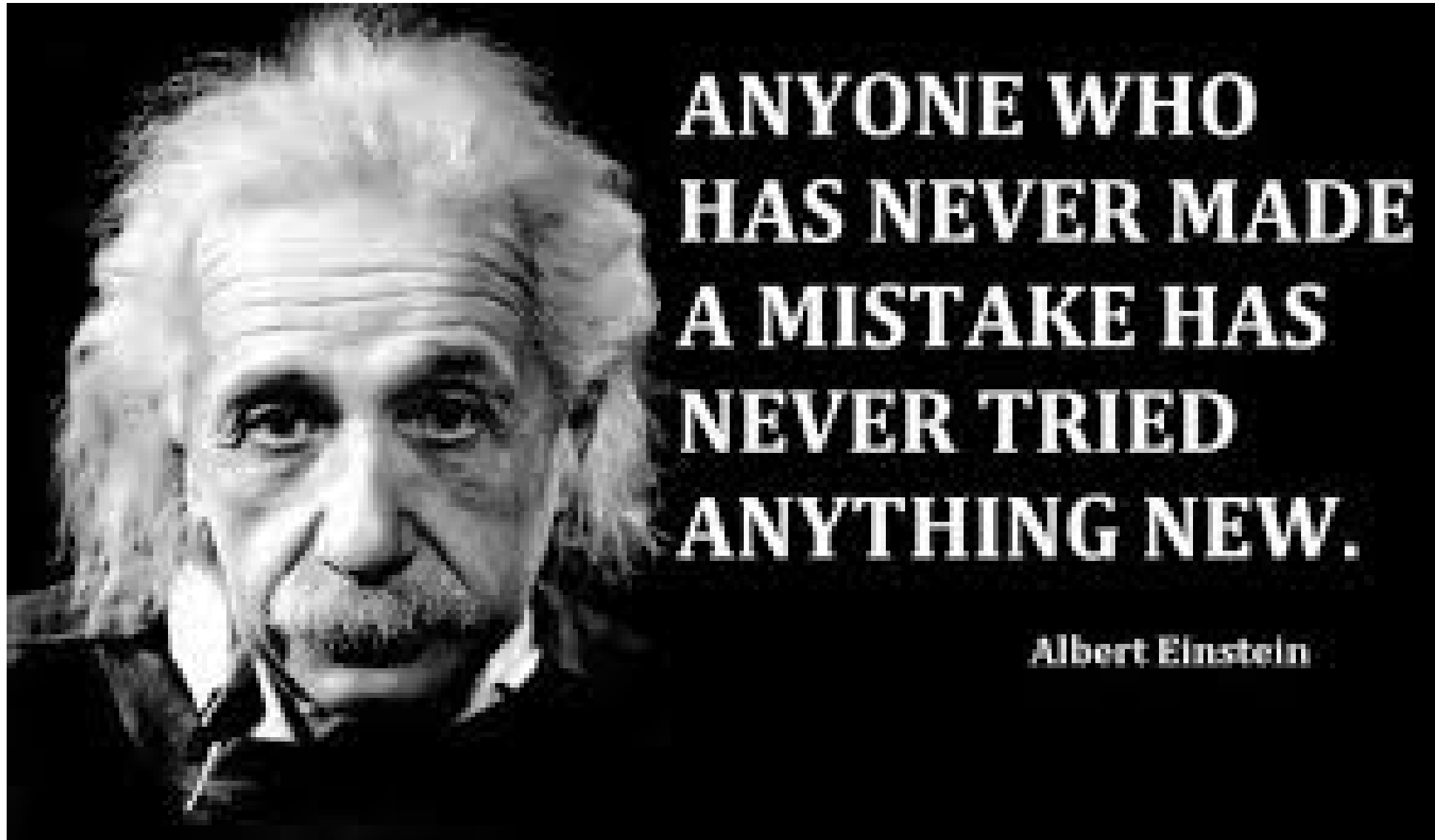


Pitches

- Gonneke
- Rini

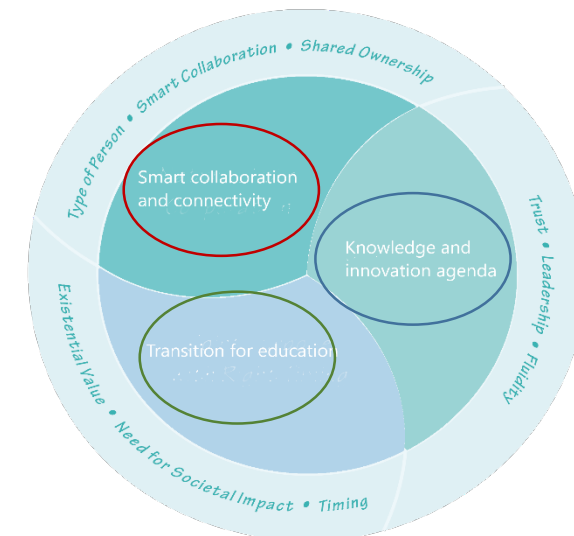
- What practices are necessary to ensure VET is in the innovation chain, ensuring its relevance with fast-changing technologies?
- Select one for regional cooperation and one for sectoral cooperation.

Making mistakes is part of the innovation proces

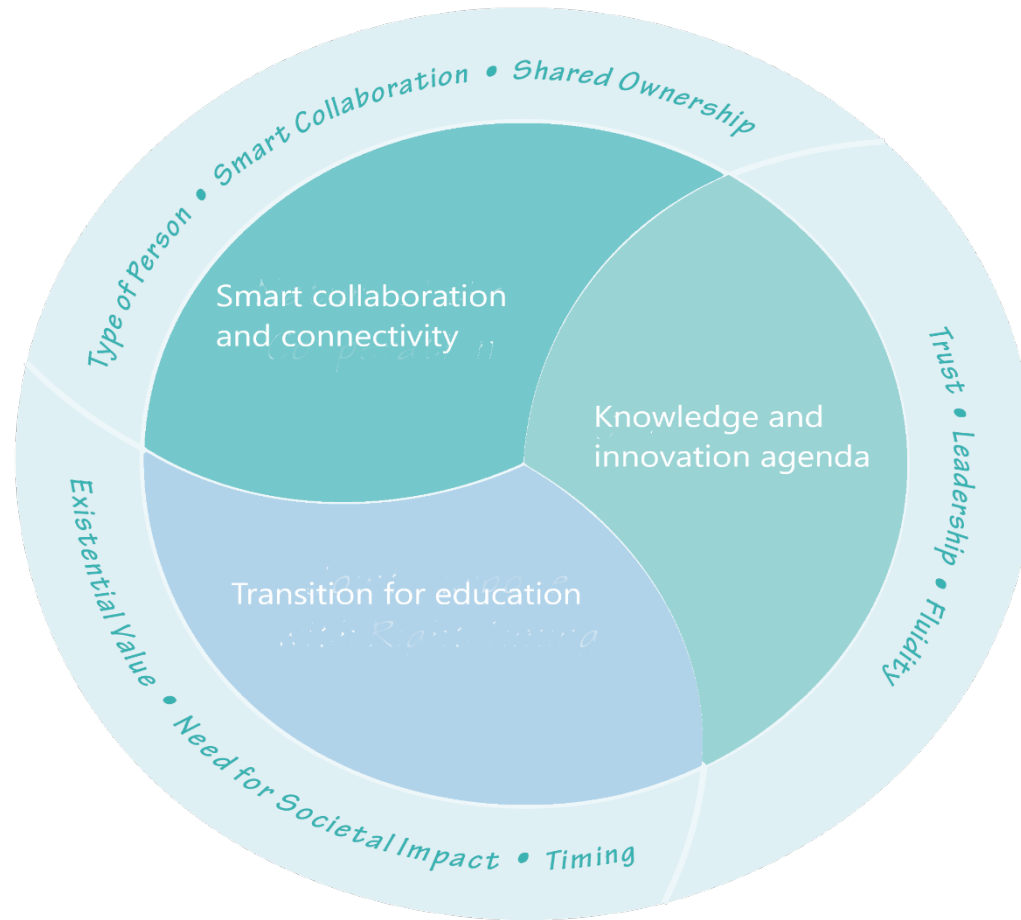


Model for collaboration

- To prepare students for professions that are not yet realised, we need to be teaching them technologies and skills that are in the process of being developed. VET providers need to be part of the innovation chain to bring students of all ages in the environment of the near future: **contribute to knowledge and innovation agenda**
- In order to keep up with the current changes in the labor market, education must be responsive, flexible and agile. We must welcome changes to the way we are organized: realize a **transition in education**
- Education institutes must be able to work with other partners from various backgrounds. Work together to bring students of all ages in a context that prepares them for the work of tomorrow: **Smart collaboration and connectivity (ecosystem)**
- Dutch VET schools have invested strongly in regional and sectoral cooperation aimed at excellence and innovation. This approach is the basis of the model of ‘Centers of Vocational Innovation’.



Model for collaboration



VET ambitions in your region

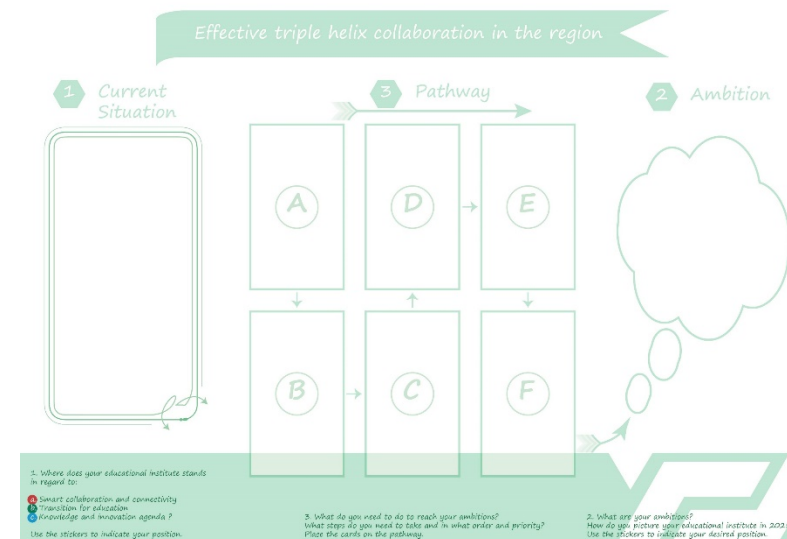
- The Dutch model for collaboration is one that you could use to discuss your current state of affairs and your own ambitions
- We use an interactive approach for form your thoughts
- Ask yourself the following questions


1. Where does my education institute

stand in regard to smart collaboration (red),
transition education (green) and knowledge and innovation agenda (blue)

2. What are my ambitions in these three aspects?

3. What steps do I need to take?





Trust
Smart collaboration and connectivity

groenpact




People and roles
Smart collaboration and connectivity

groenpact



Leadership
Smart collaboration and connectivity

groenpact




Strategic choices
Transition for education

groenpact



Curriculum development
Transition for education

groenpact



Cooperation strategy
Smart collaboration and connectivity

groenpact




Connectivity and alignment
Smart collaboration and connectivity

groenpact



Collaboration structure
Smart collaboration and connectivity

groenpact




Infrastructure
Transition for education

groenpact



Professionalisation and competences
Transition for education

groenpact




Boundary crossing
Smart collaboration and connectivity

groenpact



Co-creation
Knowledge and innovation agenda

groenpact



Innovating
Knowledge and innovation agenda

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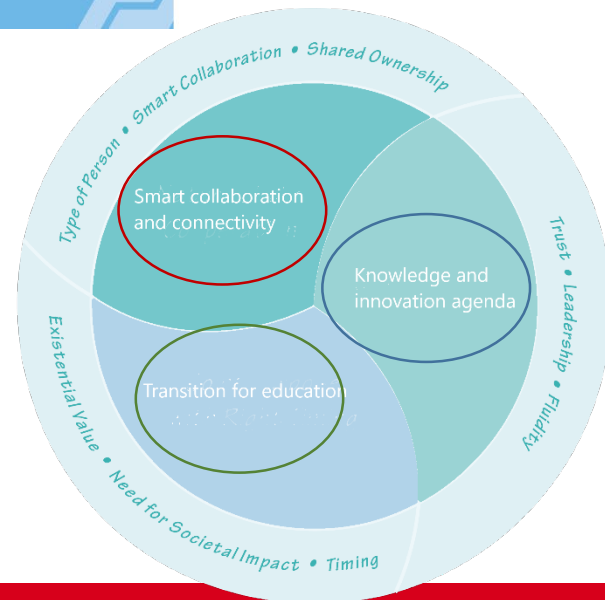
Learning and developing
Knowledge and innovation agenda

groenpact



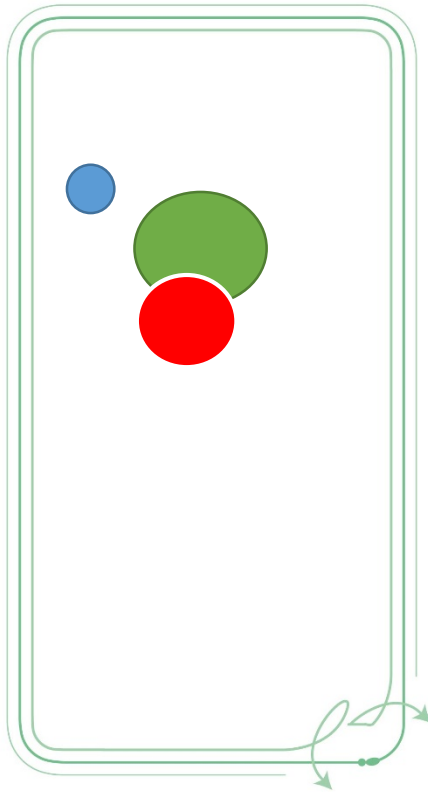
Value creation
Knowledge and innovation agenda

groenpact

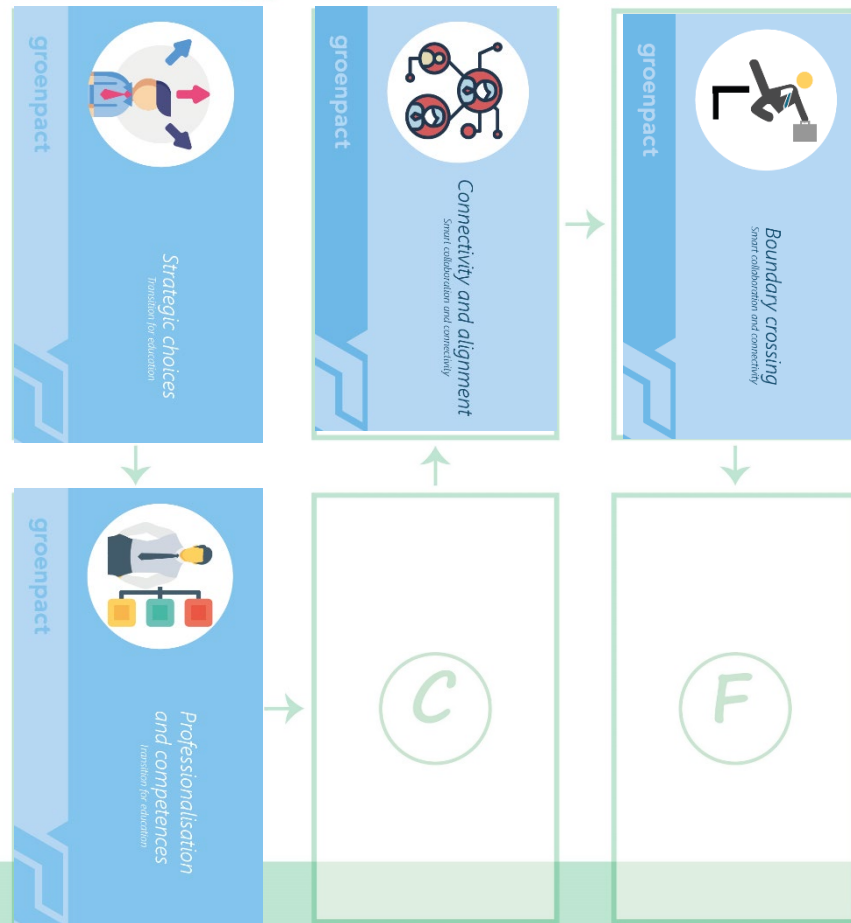


Effective triple helix collaboration in the region

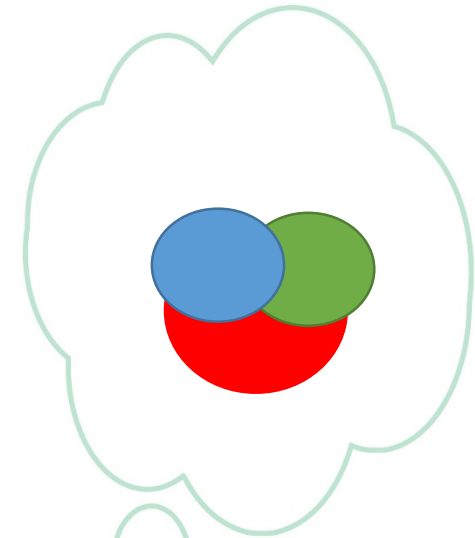
1 Current Situation



3 Pathway



2 Ambition



1. Where does your educational institute stand in regard to:

- a. Smart collaboration and connectivity
- b. Transition for education
- c. Knowledge and innovation agenda ?

Use the stickers to indicate your position.

3. What do you need to do to reach your ambitions? What steps do you need to take and in what order and priority? Place the cards on the pathway.

2. What are your ambitions? How do you picture your educational institute in 2025? Use the stickers to indicate your desired position.