

Who's doing the work?

Human-Centered AI



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Director of Service Design

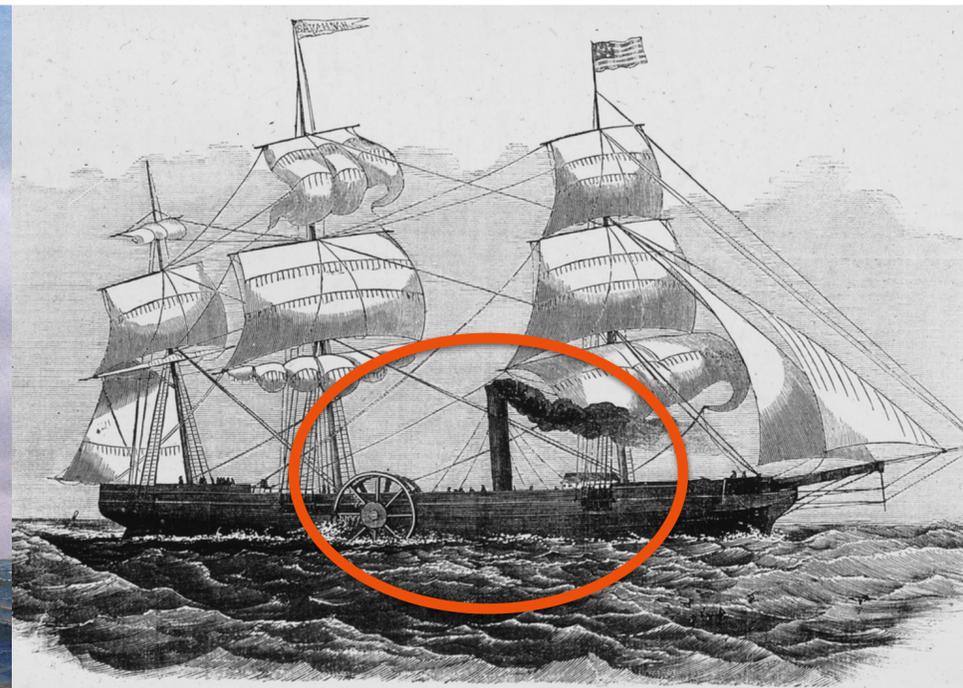


shop + website ≠ internet company

Sail Ship (No Engine)



SS Savannah (Engine add-on)



Motor Ship (Engine First)



↑
Traditional IT

(No AI)

↑
Most current "AI" solutions

(AI add-on)

↑
Future AI solutions

(AI first)

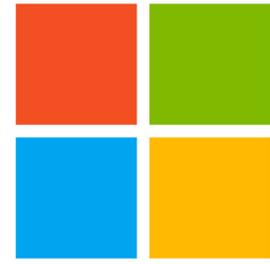
company + ML ≠ AI company



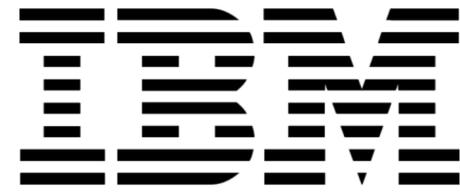
Top 5 Publicly Traded Companies (by Market Cap)

Tech Other





Microsoft



Google



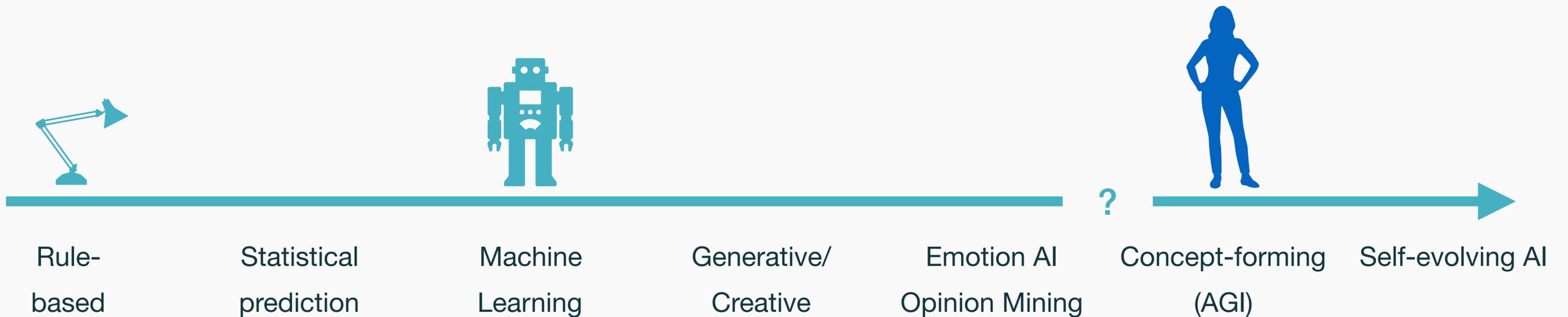
Tencent

amazon

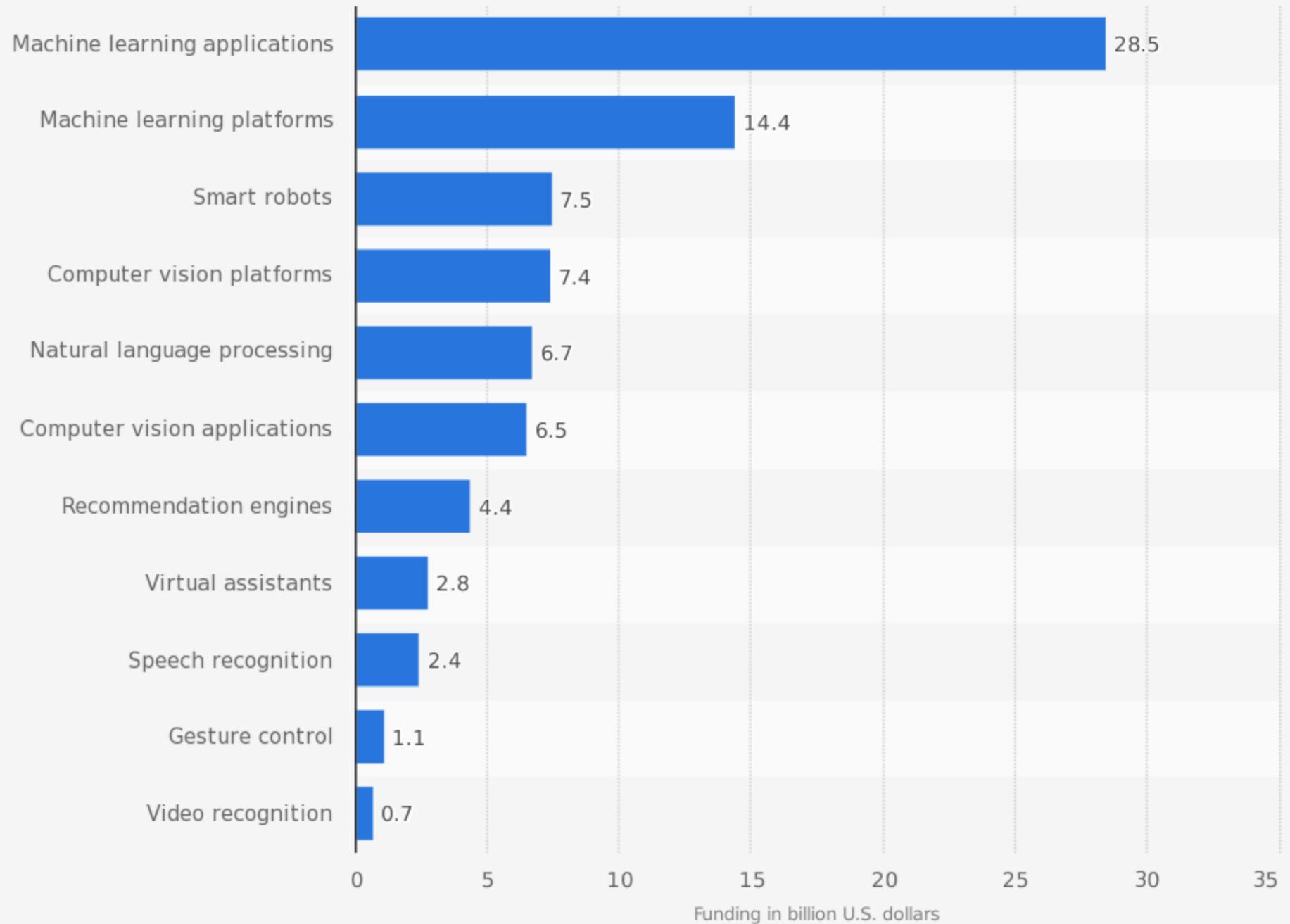




What do we mean by AI?



Artificial intelligence (AI) funding worldwide cumulative through March 2019 (in billion U.S. dollars), by category



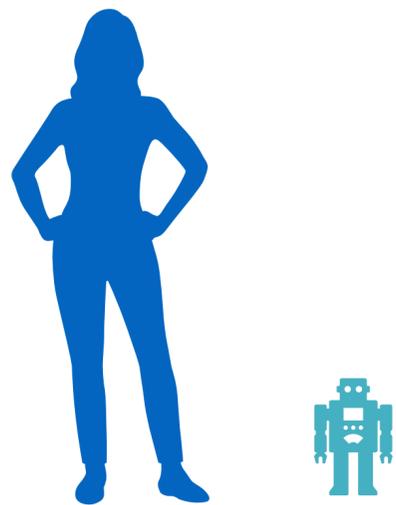
Rule-based

S
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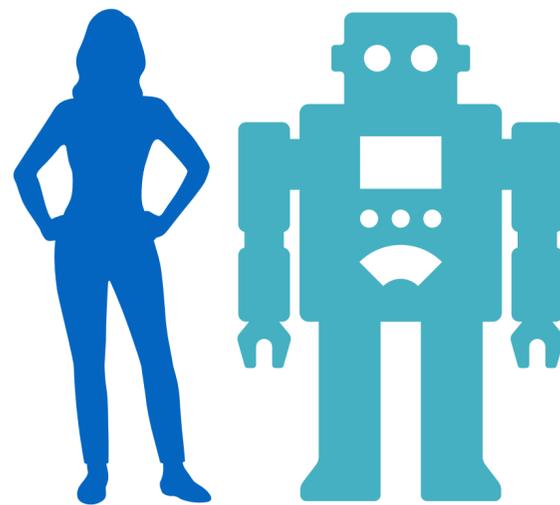
Learning Self-evolving AI

Sources
Venture Scanner; Statista estimates
© Statista 2019

Additional Information:
Worldwide; Venture Scanner; Statista estimates; Cumulative through March 20 19



**Narrow (weak)
Intelligence**



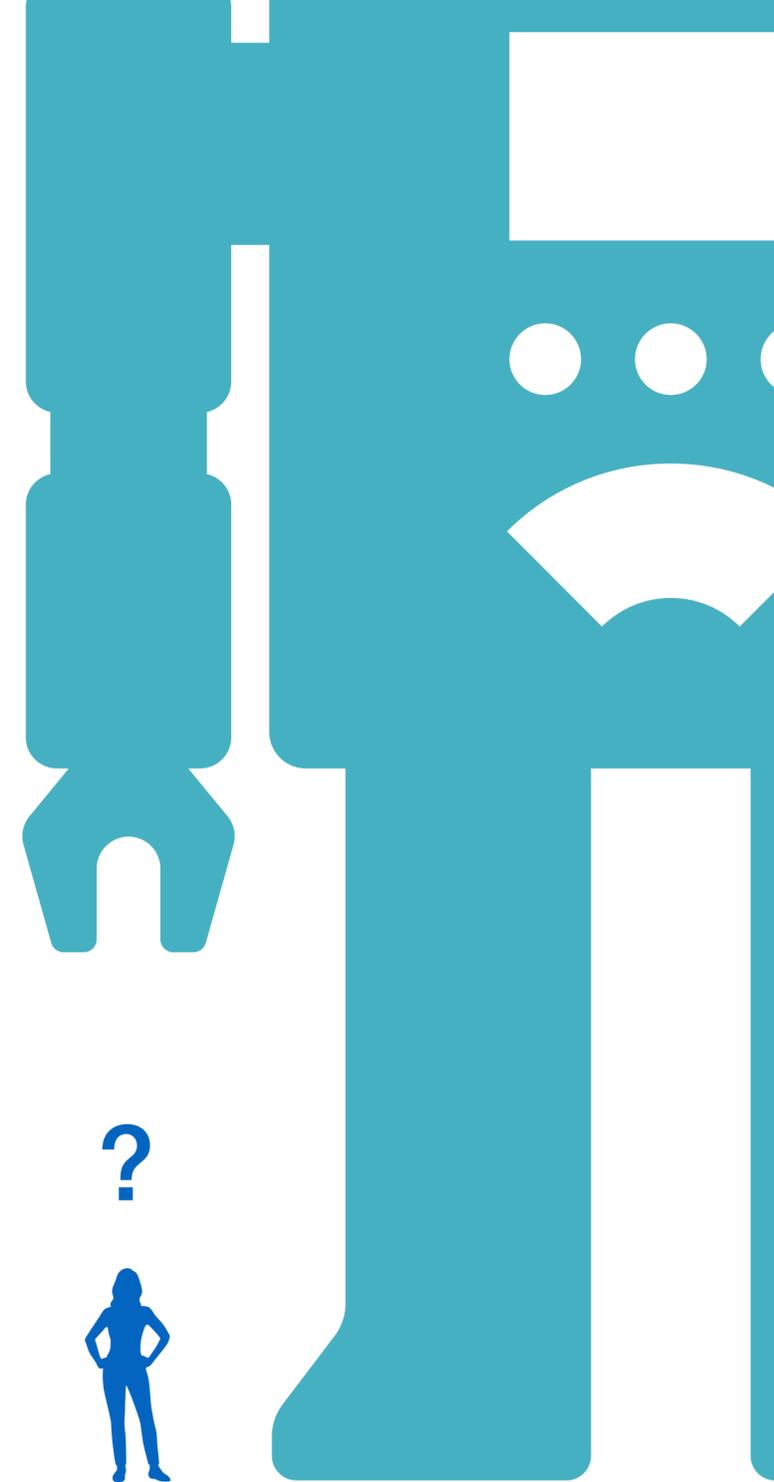
**General (human-like)
Intelligence**

"THE SINGULARITY"

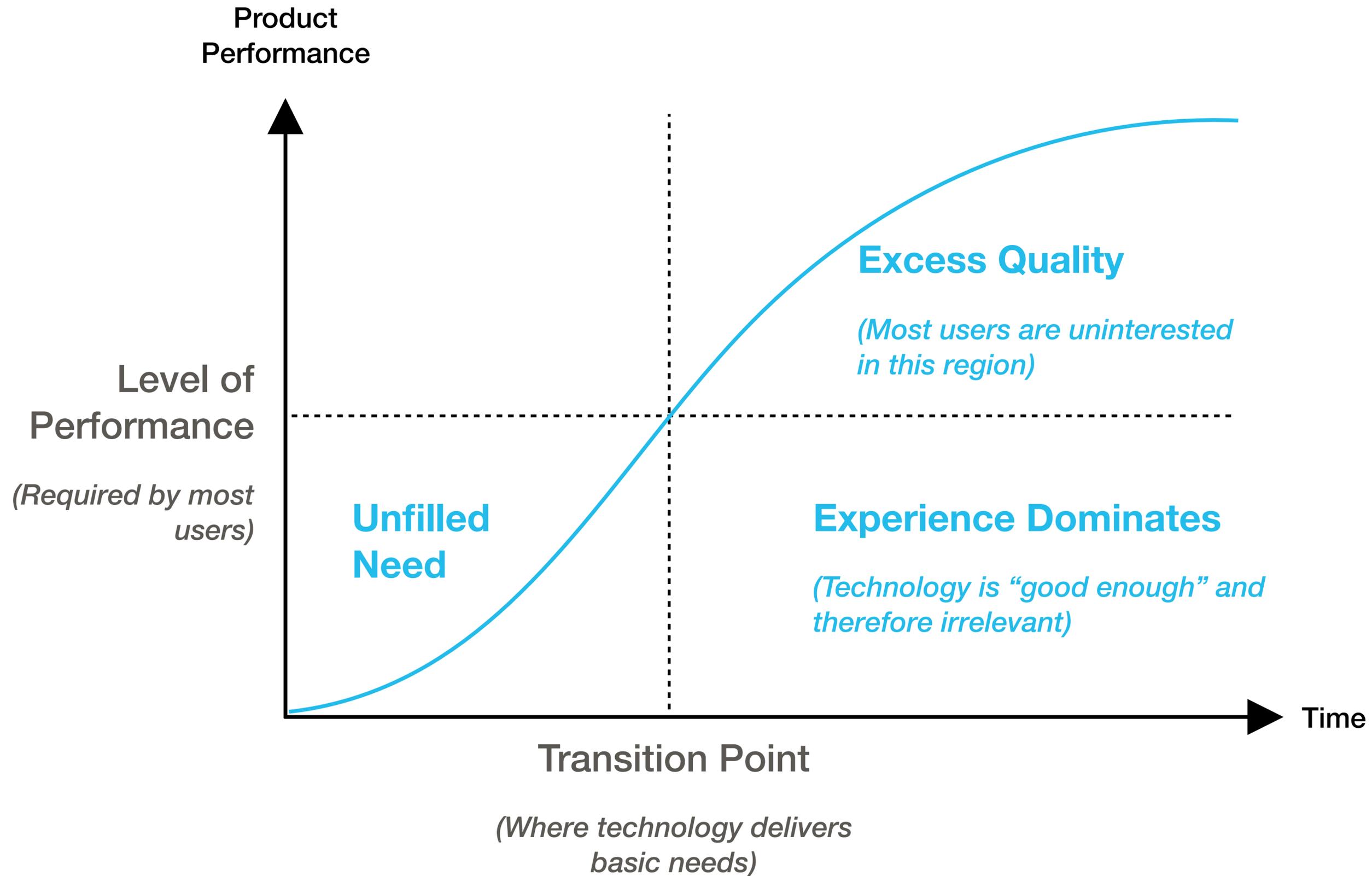
?



**Super (self-evolving)
Intelligence**



Even the best AI will fail if it doesn't provide value for people.

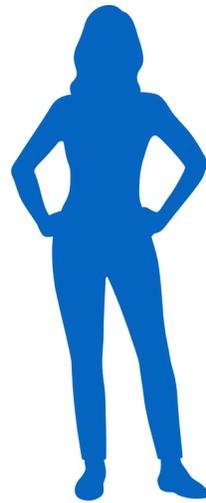


89% of chief executives expect to compete mostly on the basis of customer experience – vs. 36% in 2012.

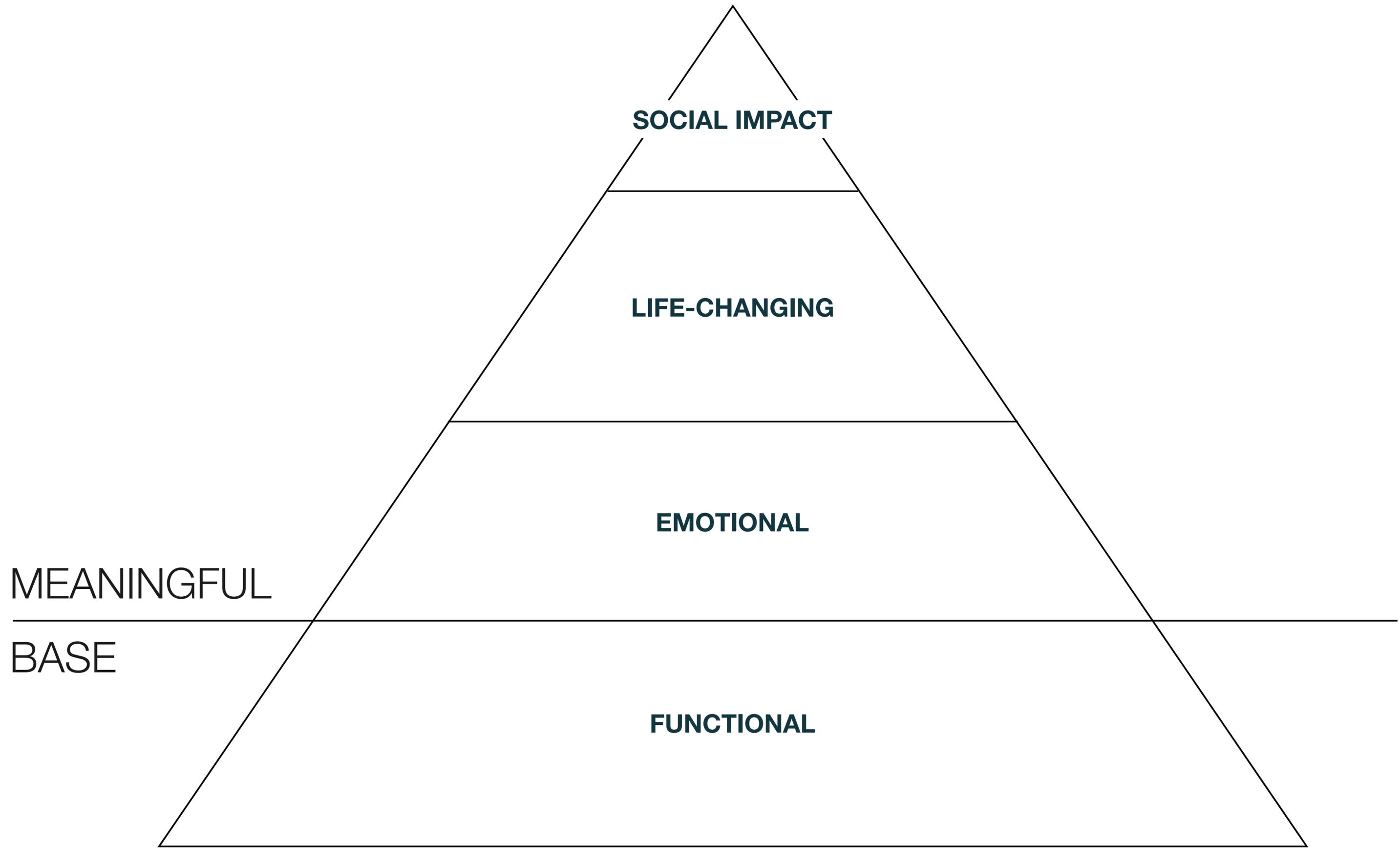
Design-Infused Culture—From the CEO down, all members of the organization understand and agree that design will be a distinguishing factor in the survival of their products and their companies

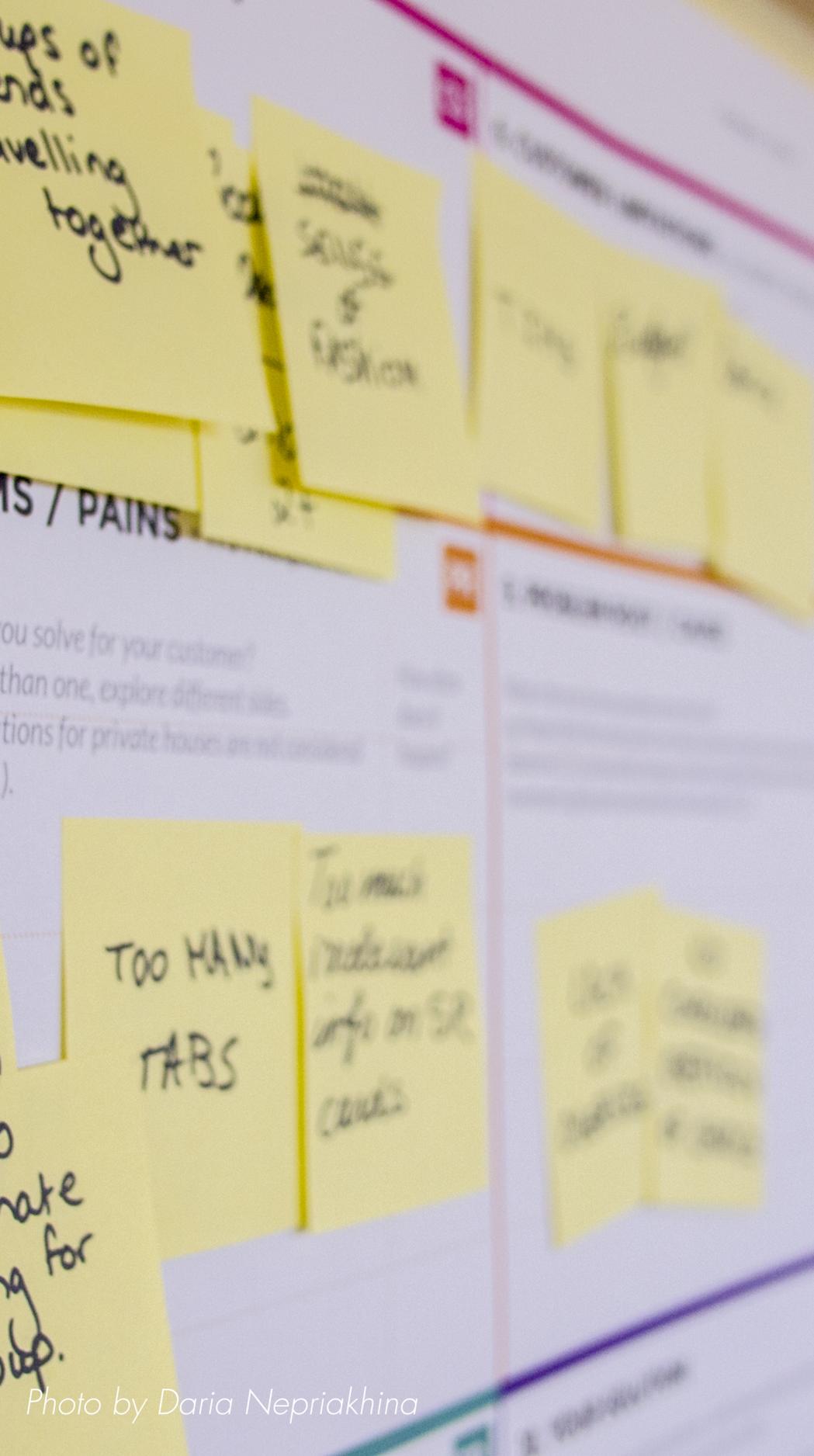
The ROI of design-oriented companies is 228% higher than that of S&P 500 companies.

Human-Centered Design



Design is the rendering of intentional delivery of meaningful service experiences, using the best technology for the job.





Service Design

1. Human-centered
2. Co-creative
3. Holistic
4. Sequential
5. Real
6. Iterative

“Design is only as human-centered as the business model allows.”

– Erika Hall

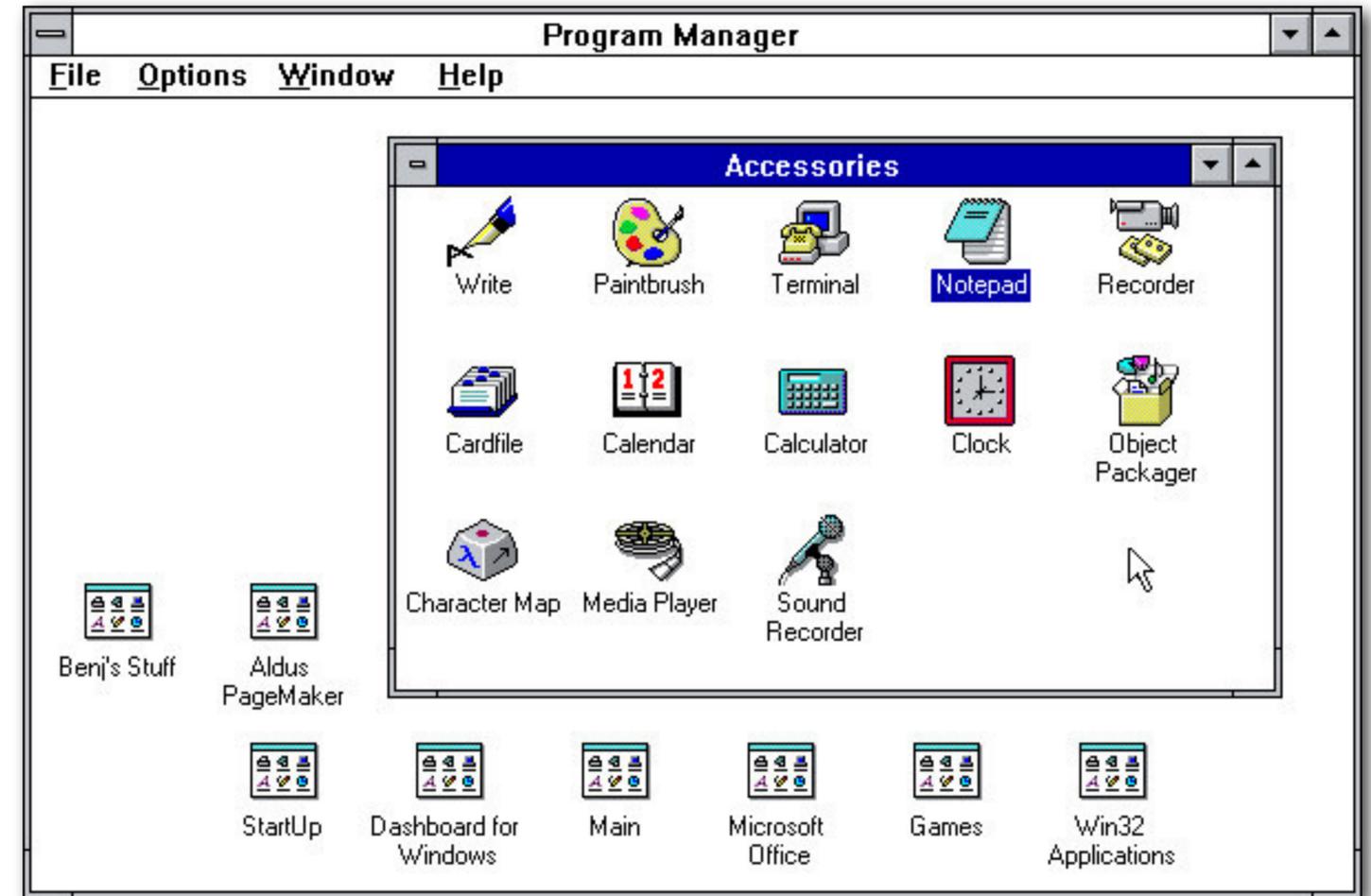
What's new?

and what's different with AI-powered services?

We've seen shifts before

```
L1.M20 System Configuration:
  Total memory size:    128 KBytes.
  Free memory size:    76230 Bytes.
  Basic memory size:   36742 Bytes.
  Display Type:        Black and White.
  Disk drive(s):       1 Ready.

L1.M20 PC05-8000 2.0h
COPYRIGHT (C) by Olivetti, 1982, all rights reserved
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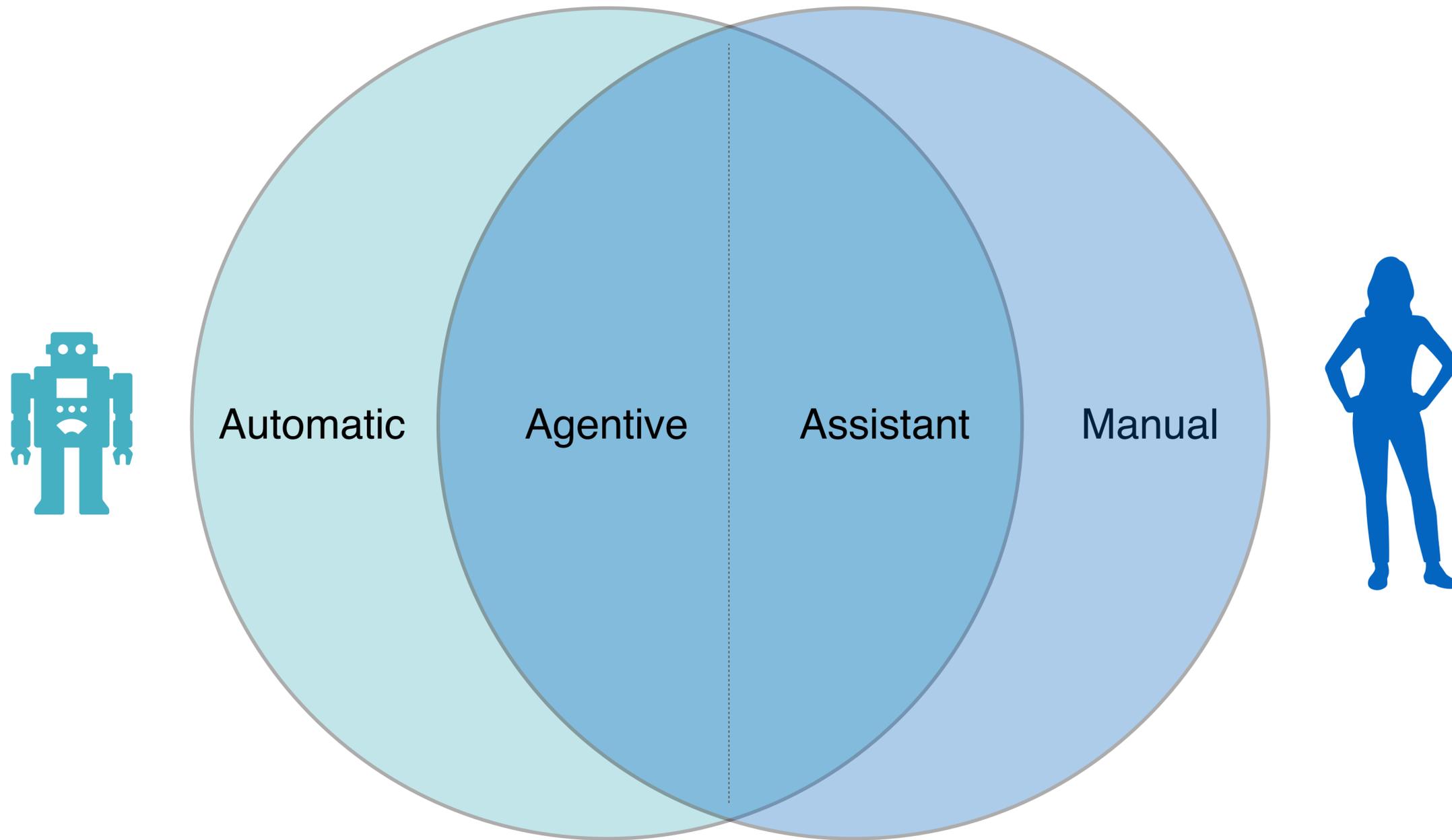


Seidel et al. (2018)

From tools
to butlers

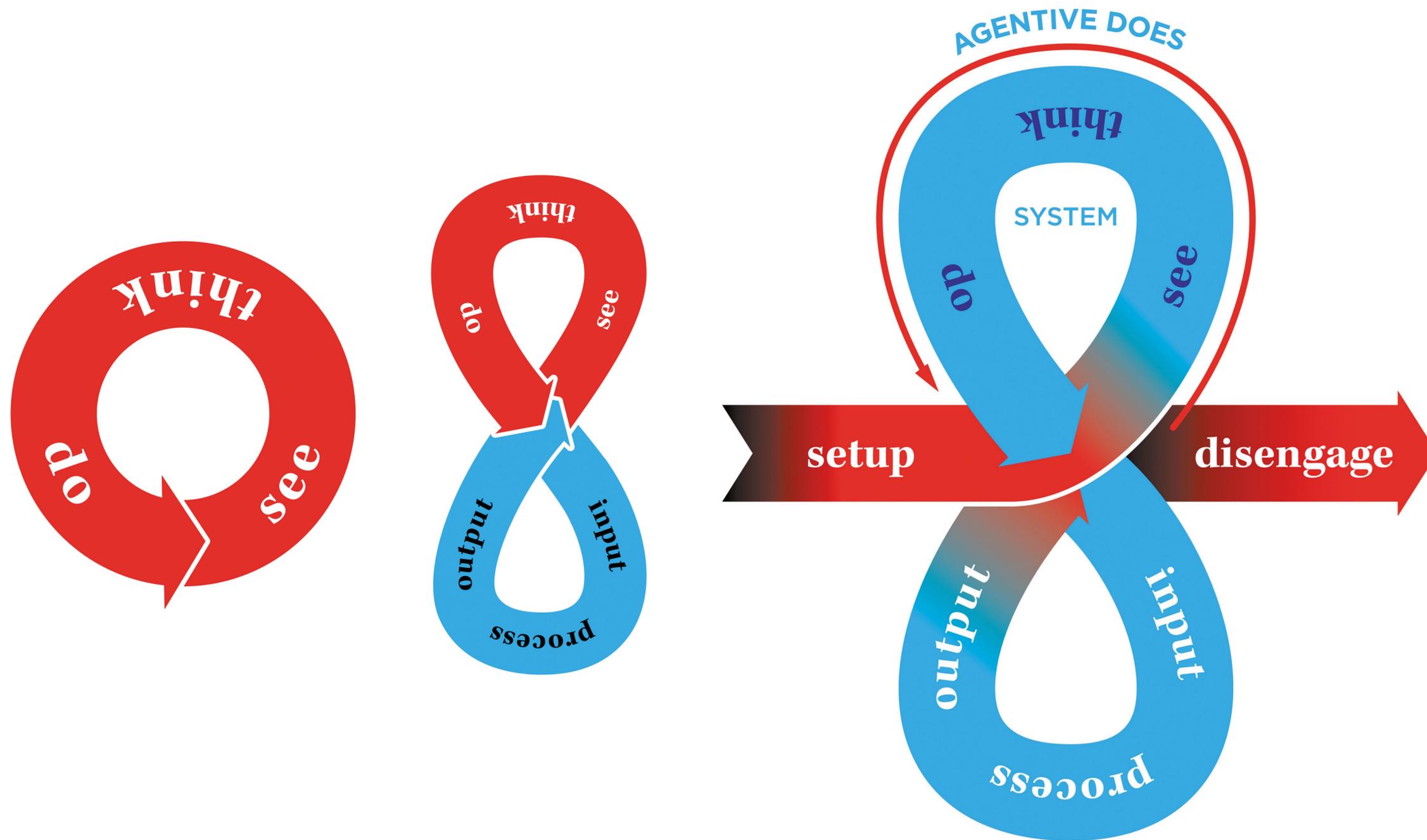
From task-doers

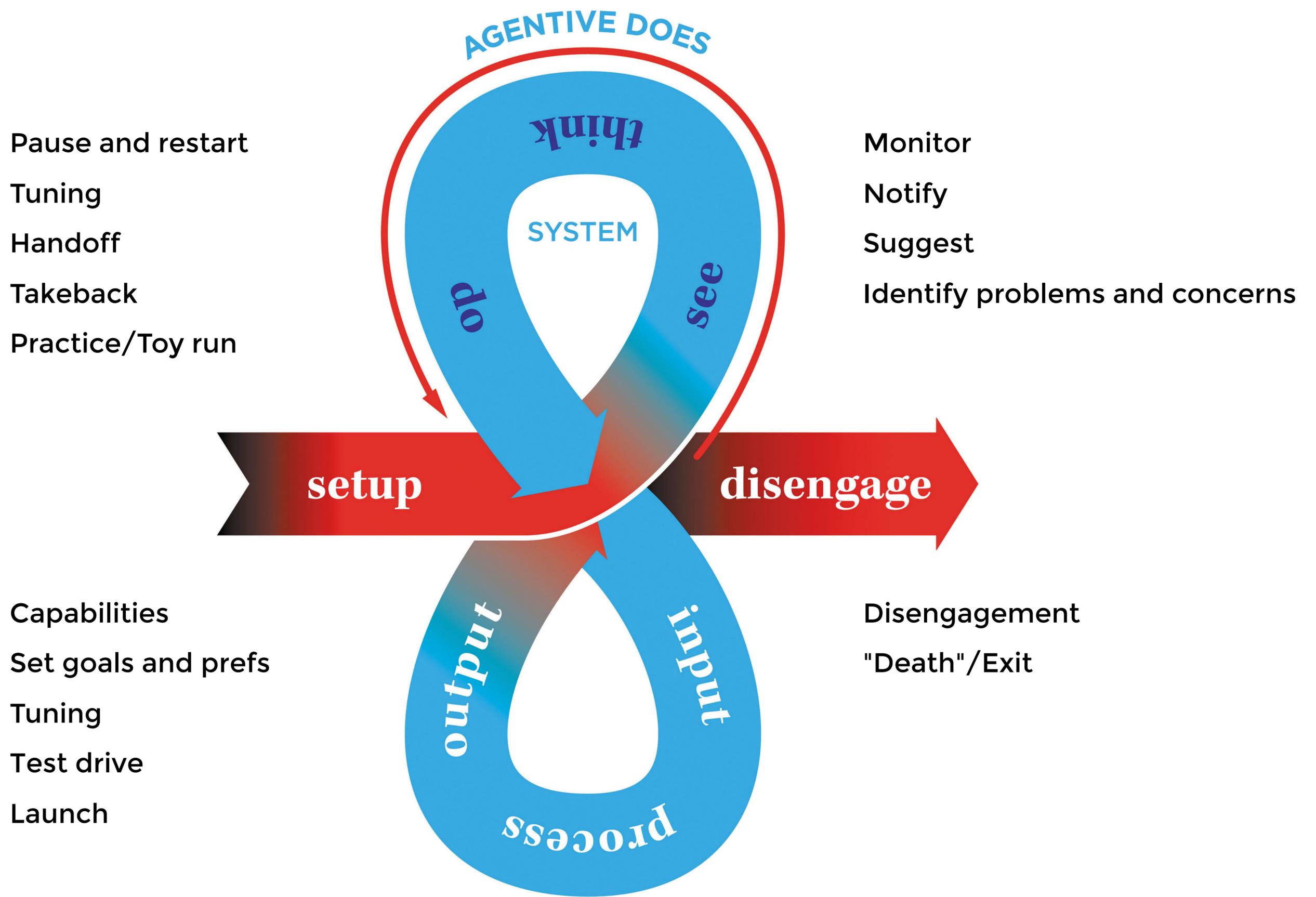
to task-managers



1. New interaction paradigms

A new interaction loop

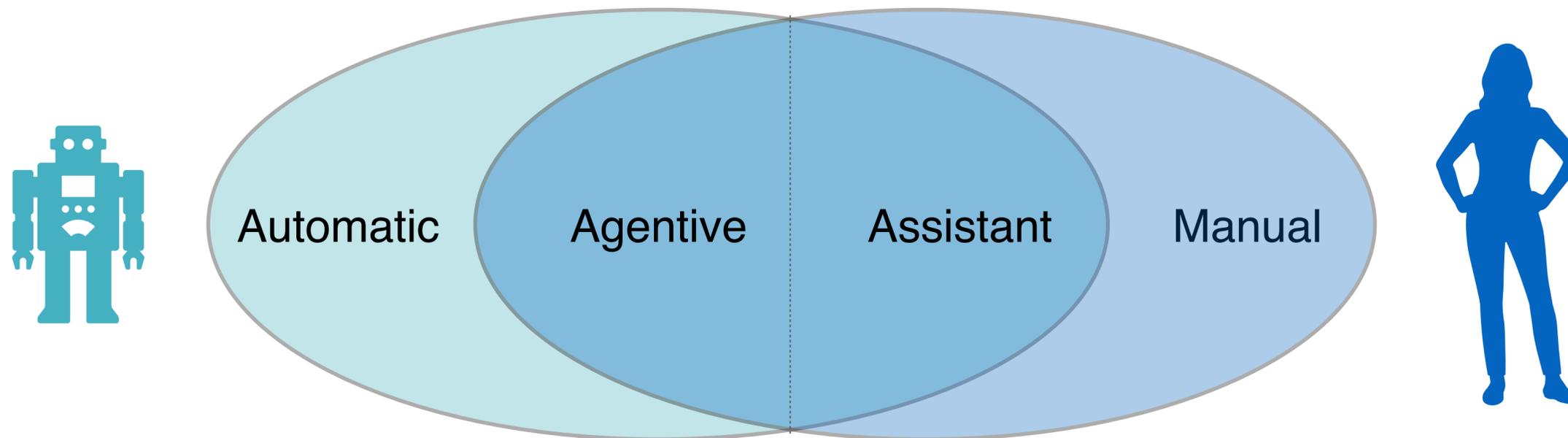




Design for understandable initiative-switching

Hand-off (Human initiates: "Help me", "You do this", "Don't bother me")

Take-back (Human initiates: "You're not doing this right", "What's the progress?")



Volunteer (AI initiates: "Can I help?", "I see you're having problems")

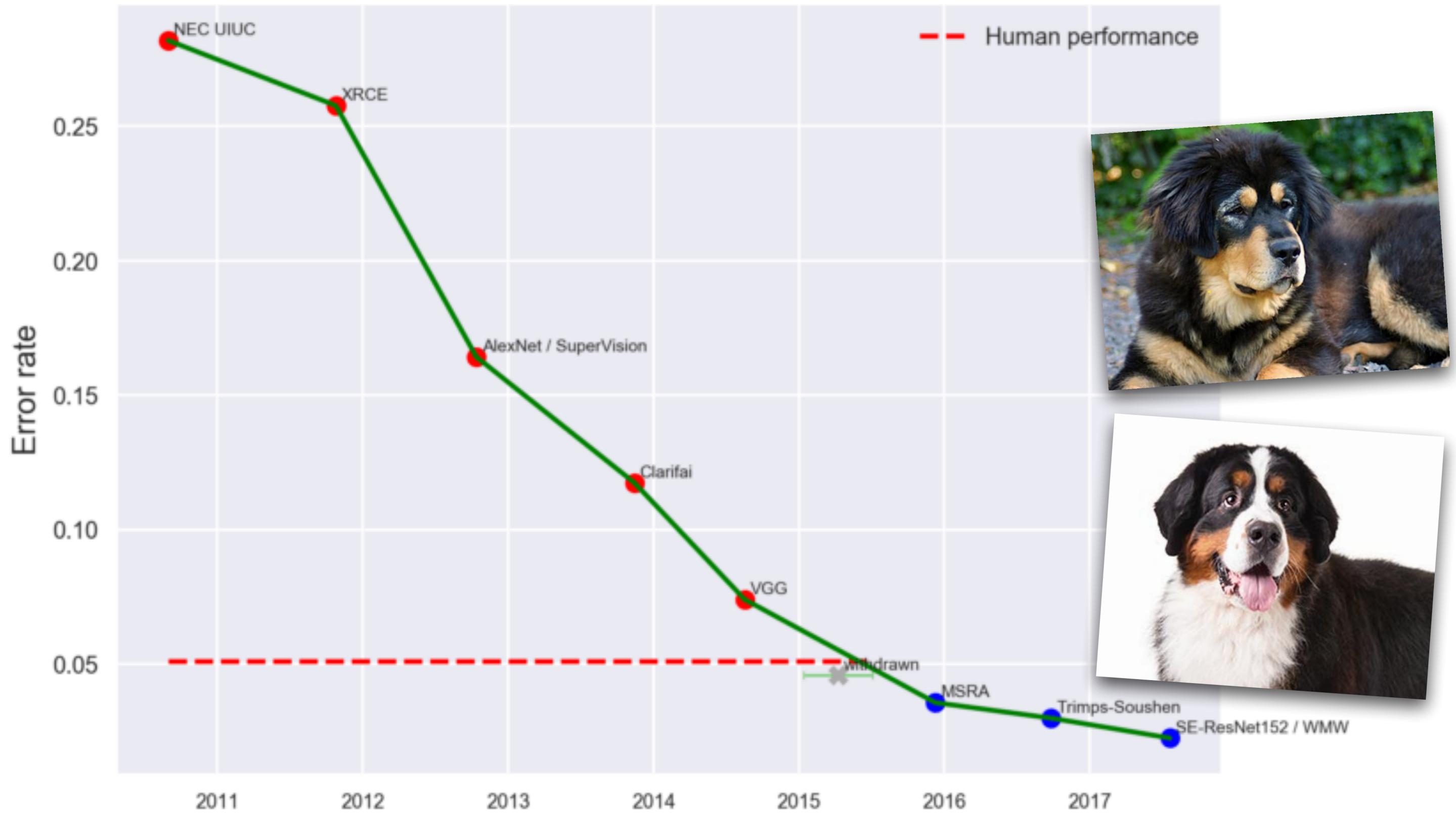
AI Panic ("Not trained for this", "Something is not working", "I don't understand", <NO RESPONSE>)

2. Design for trust and transparency

Design for Trust

- Co-learning and explainability
- Design for transparency
- Calibration of trust based on (mutual!) understanding of the system's capabilities
- Black-box models don't inspire trust – this is an uphill battle for human-centered AI
- Beyond the interaction: what about accountability? (*Hint: accountability is part of the design*)

Imagenet Image Recognition





Aug 22, 2017

An open source face detection toolkit is being developed to evaluate looks using haar, dlib, ssd, and yolo face detectors.

In the meantime, everything here is designed for the OpenCV haarcascade face detection algorithm

LOOKS

STYLE TIPS

RELATED PROJECTS

COLLABORATIONS

PRESS

REFERENCES

CONTACT

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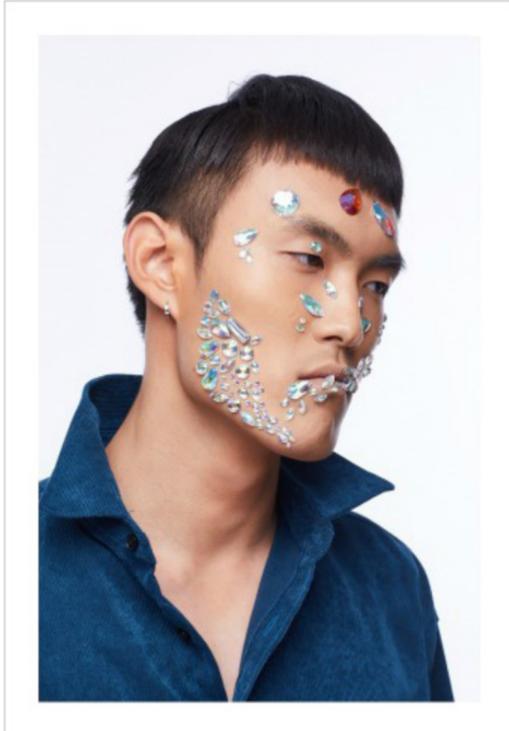
Look N° 2

For DIS Magazine (2010)
Creative direction by Lauren Boyle and Marco Roso
Model: Irina
Hair: Pia Vivas

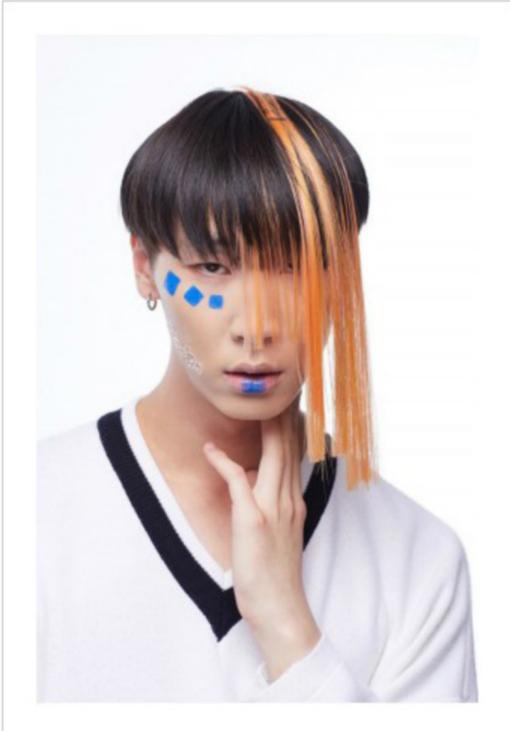


Look N° 1

For NYU ITP Thesis Presentation (2010)
Hair: Pia Vivas
Model: [Jen Jaffe](#)



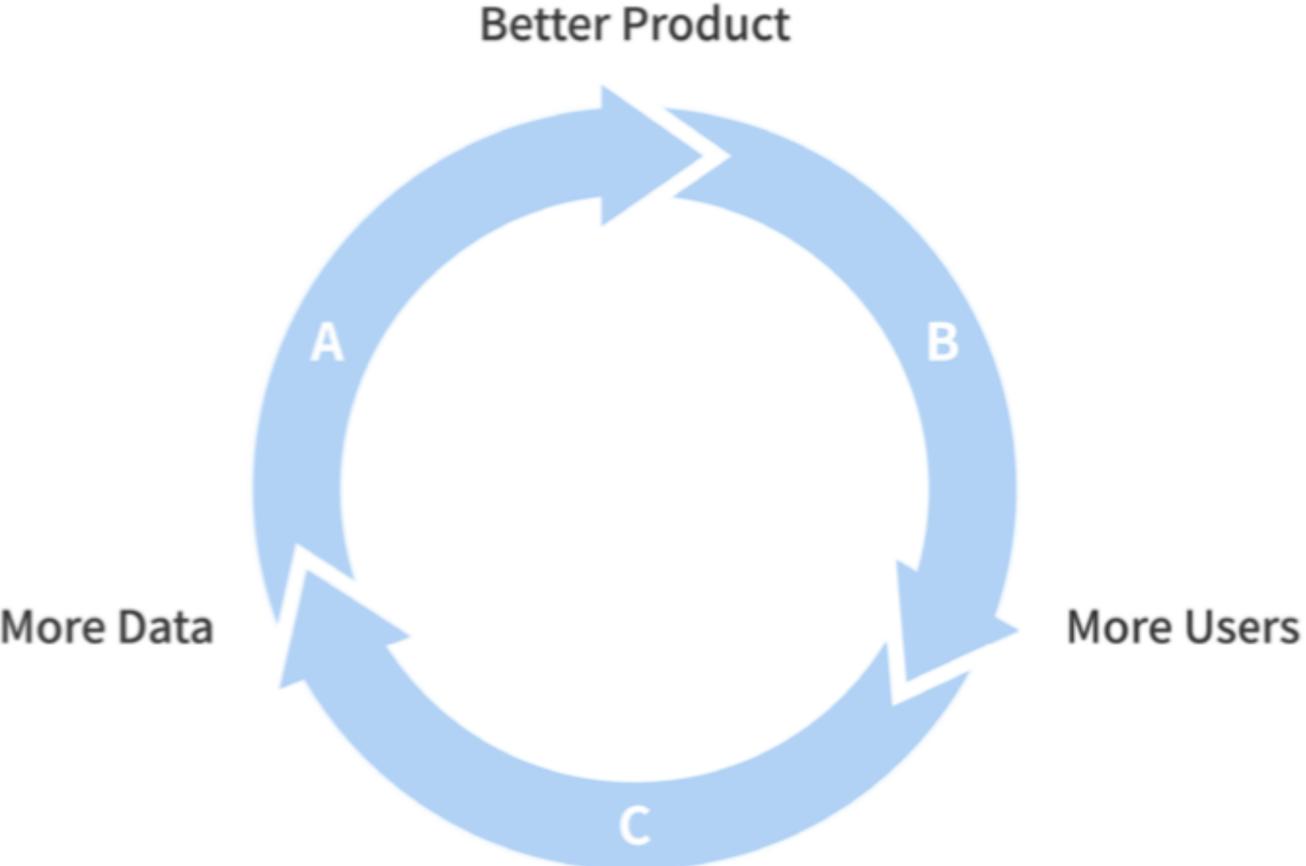
Look + 1



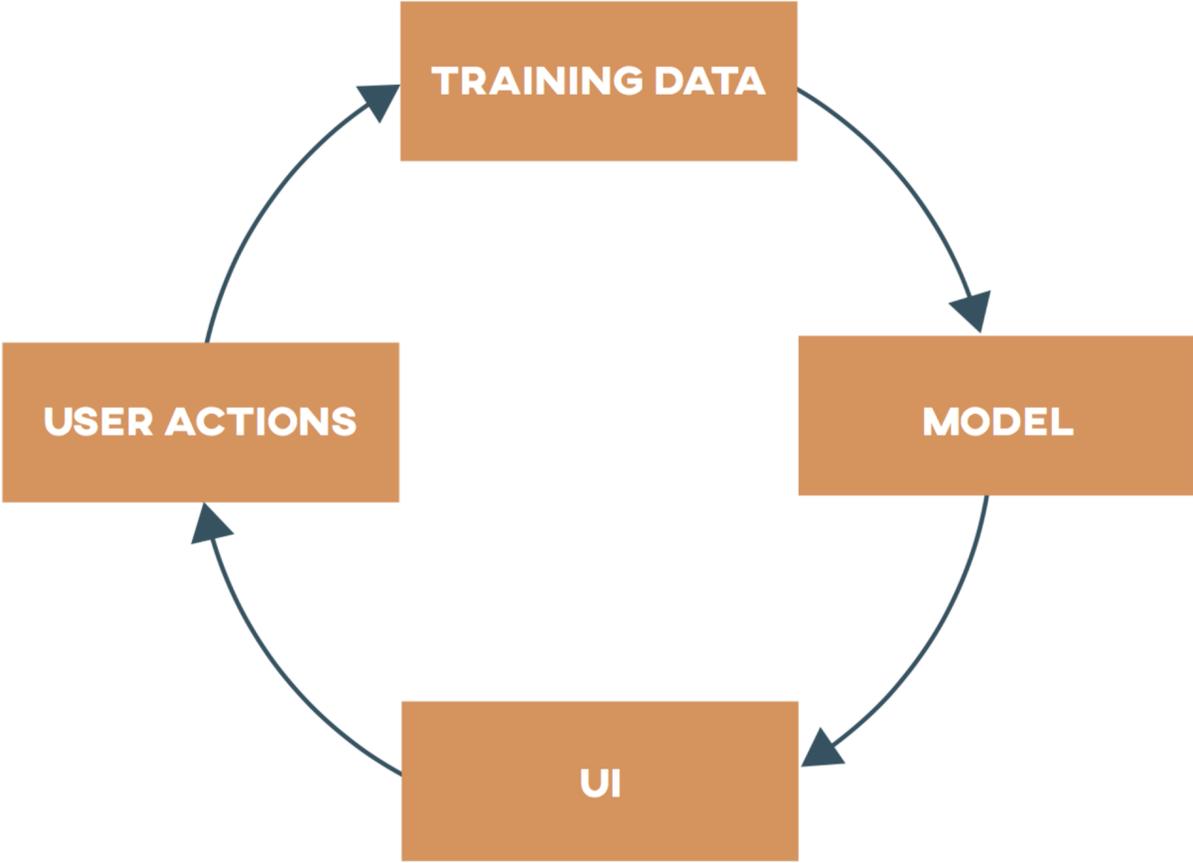
Look + 2

3. Design for data collection and usage

The Virtuous Cycle of AI



Data acquisition through interaction



**Make sure you have
diversity in your rater pool.**

“Data is a digital echo of our culture. Algorithms are opinions embedded in code.”

– Cathy O’Neill

Our job:

**To point AI at problems worth solving
and to augment human capabilities.**

11.15.16

This \$1,500 Toaster Oven Is Everything That's Wrong With Silicon Valley Design

Automated yet distracting. Boastful yet mediocre. Confident yet wrong.



1/13

"June is taking something important away from the cooking process: the home cook's ability to observe and learn. The sizzle of a steak on a pan will tell you if it's hot enough. The smell will tell you when it starts to brown. These are soft skills that we gain through practice over time.

June eliminates this self-education."

Automating

Augmenting

Key Points

- 1. Automation vs Augmentation: Who is doing the work?**
- 2. Human-Centered AI: a new design material and new tools.**
- 3. How design-infused and AI-infused is your strategy and culture?**

“Design is only as human-centered as the business model allows.”

– *Erika Hall*

“Data is a digital echo of our culture. Algorithms are opinions embedded in code.”

– *Cathy O’Neill*

References

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twitter.com/drpontus