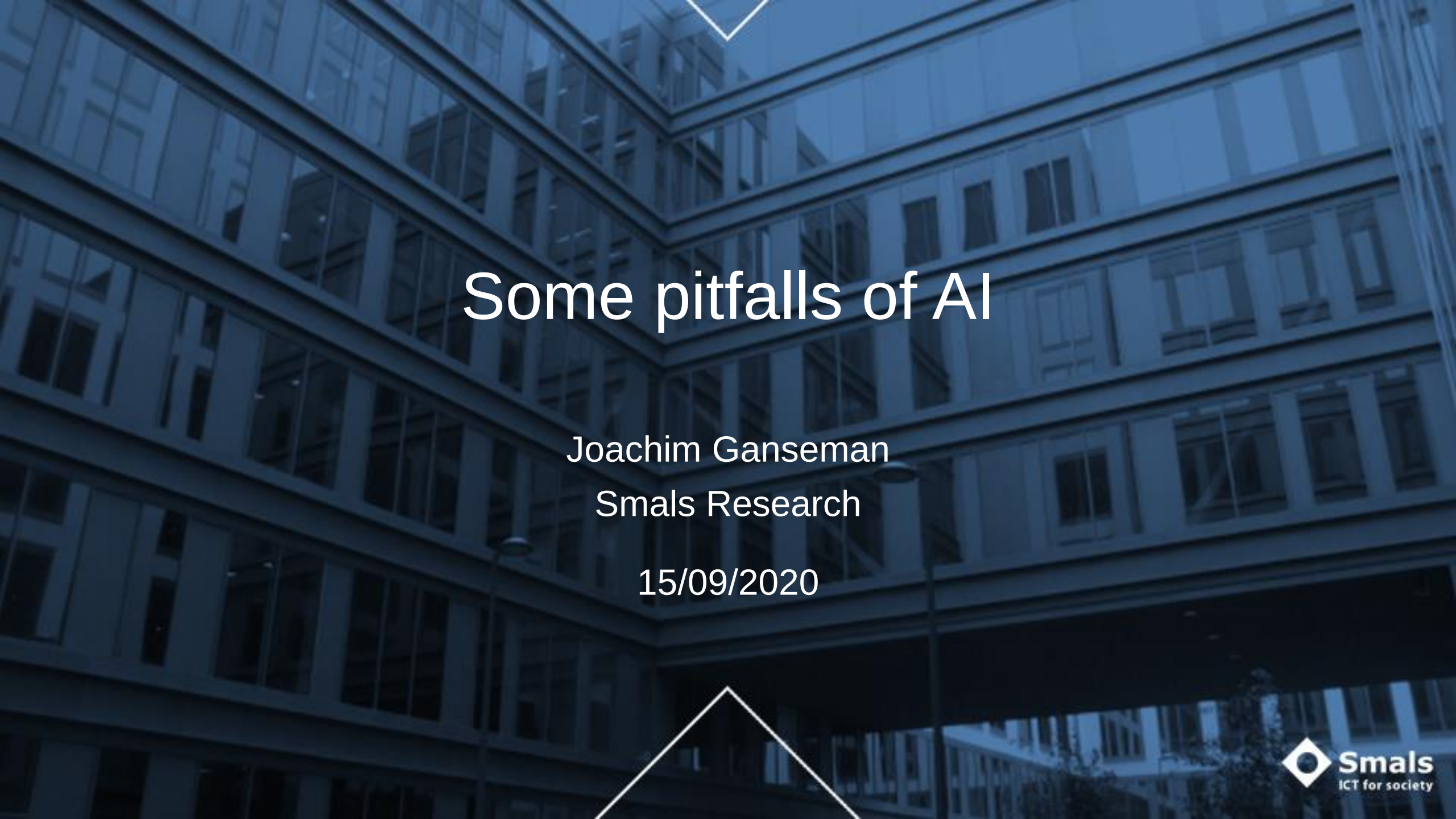

Some pitfalls of AI

Joachim Ganseman

Smals Research

15/09/2020

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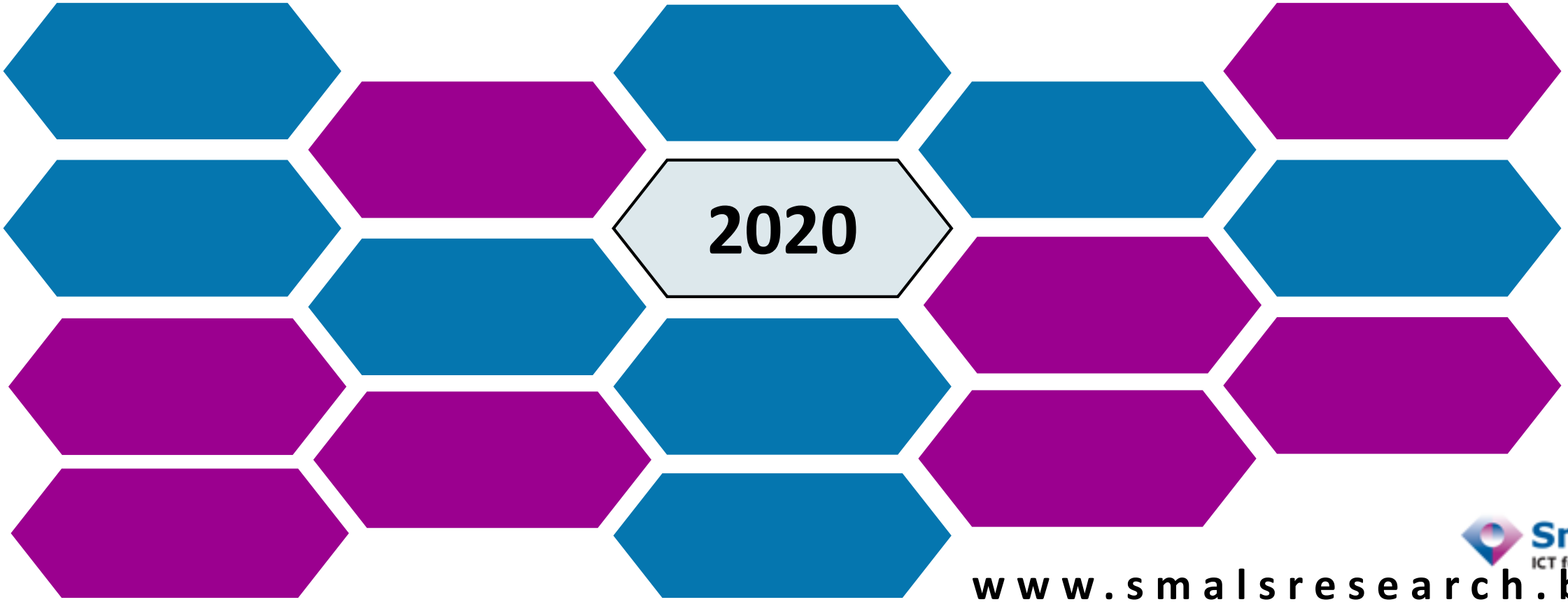
Innovation with new technologies

Consultancy & expertise

Internal & external knowledge transfer

Support for going live



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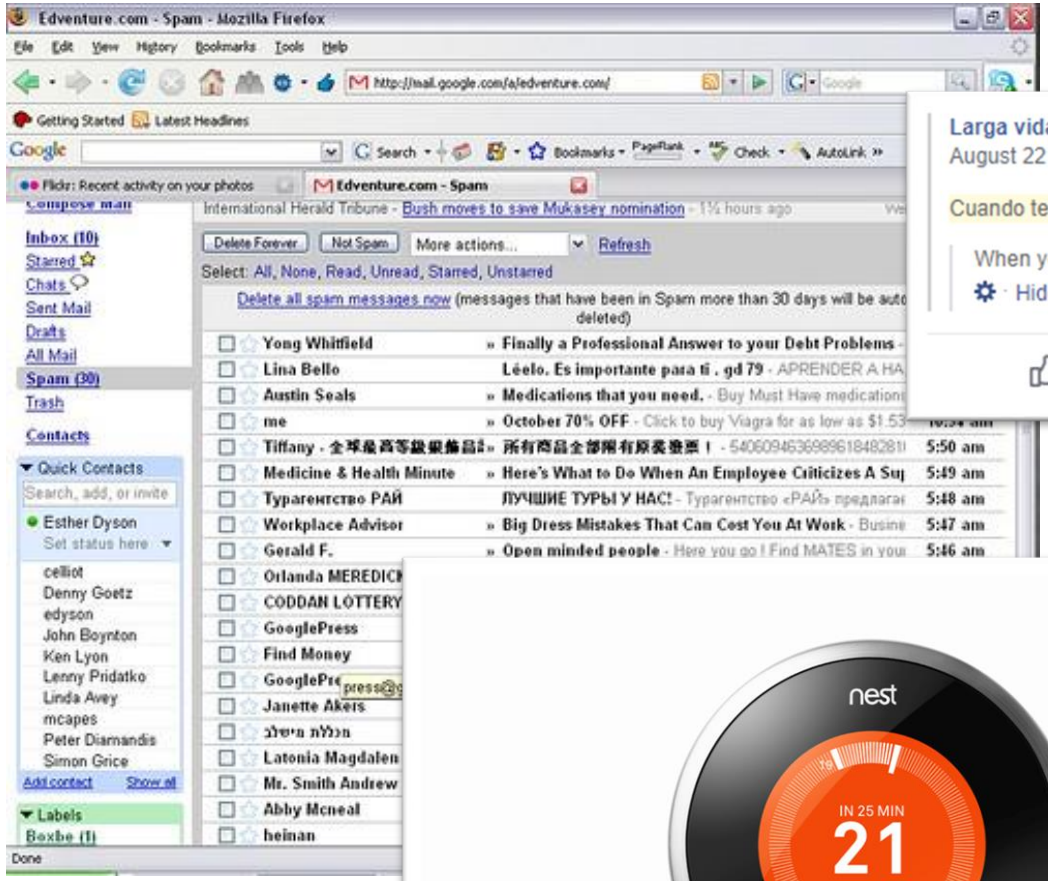
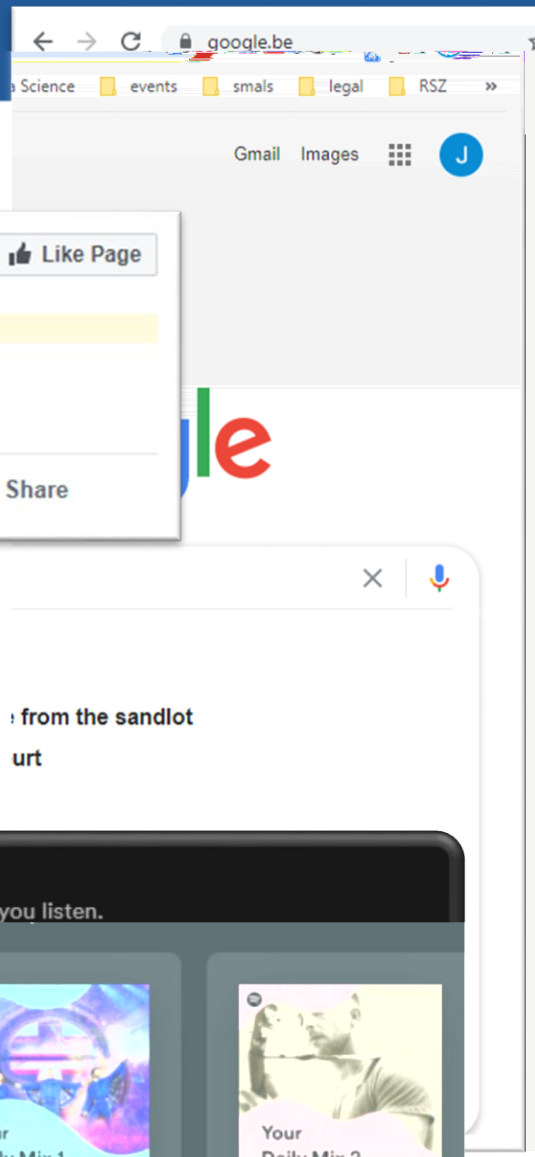
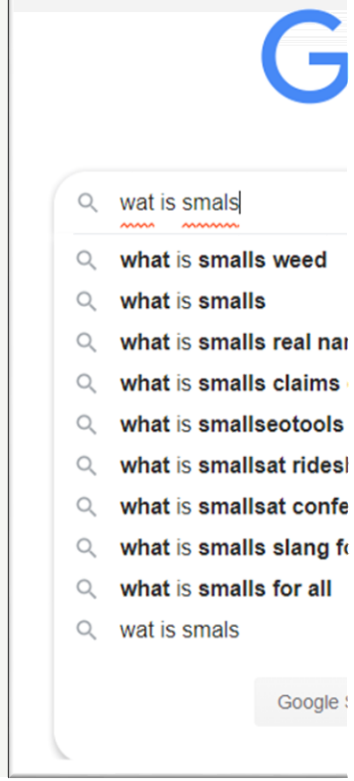
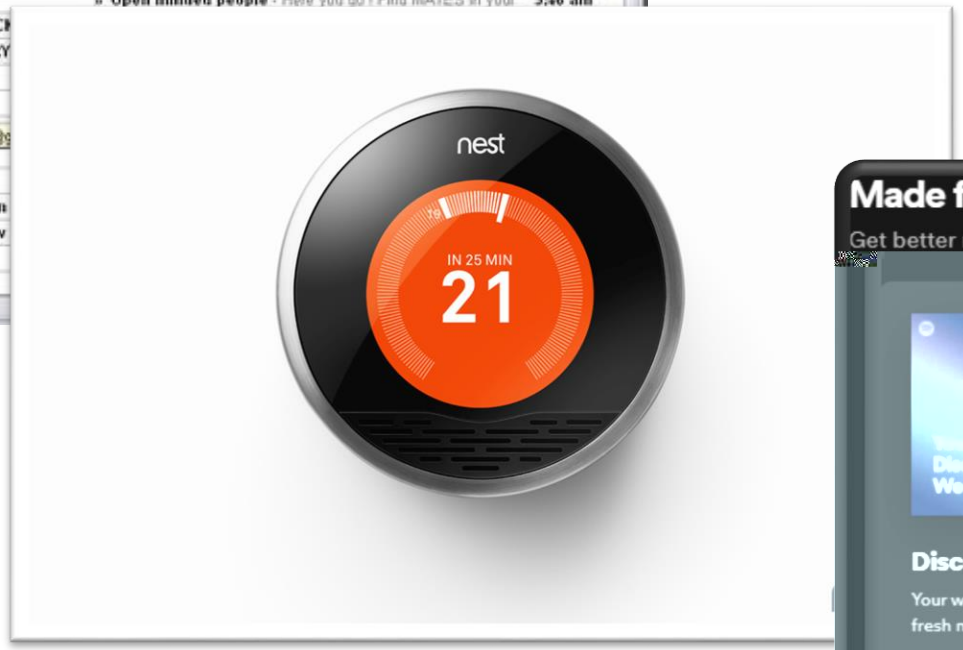
www.smalsresearch.be

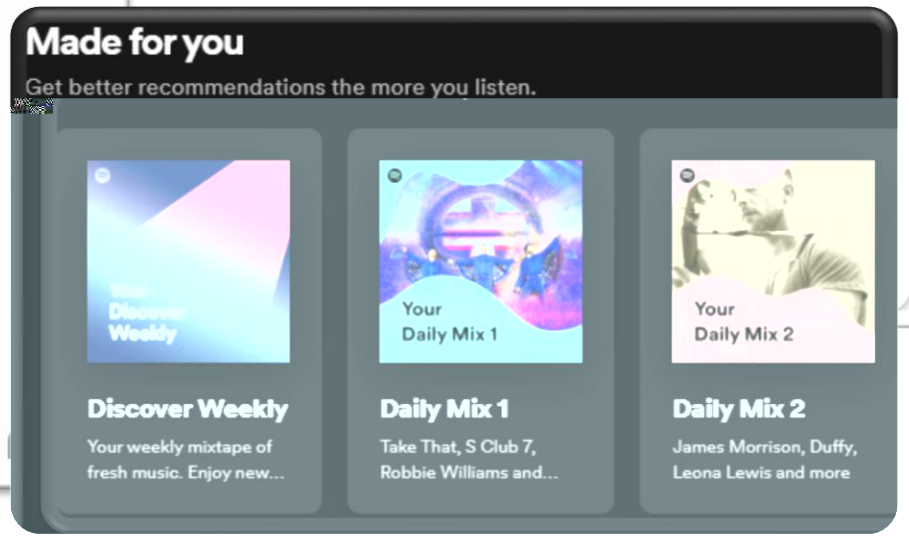
AI: part of our daily life











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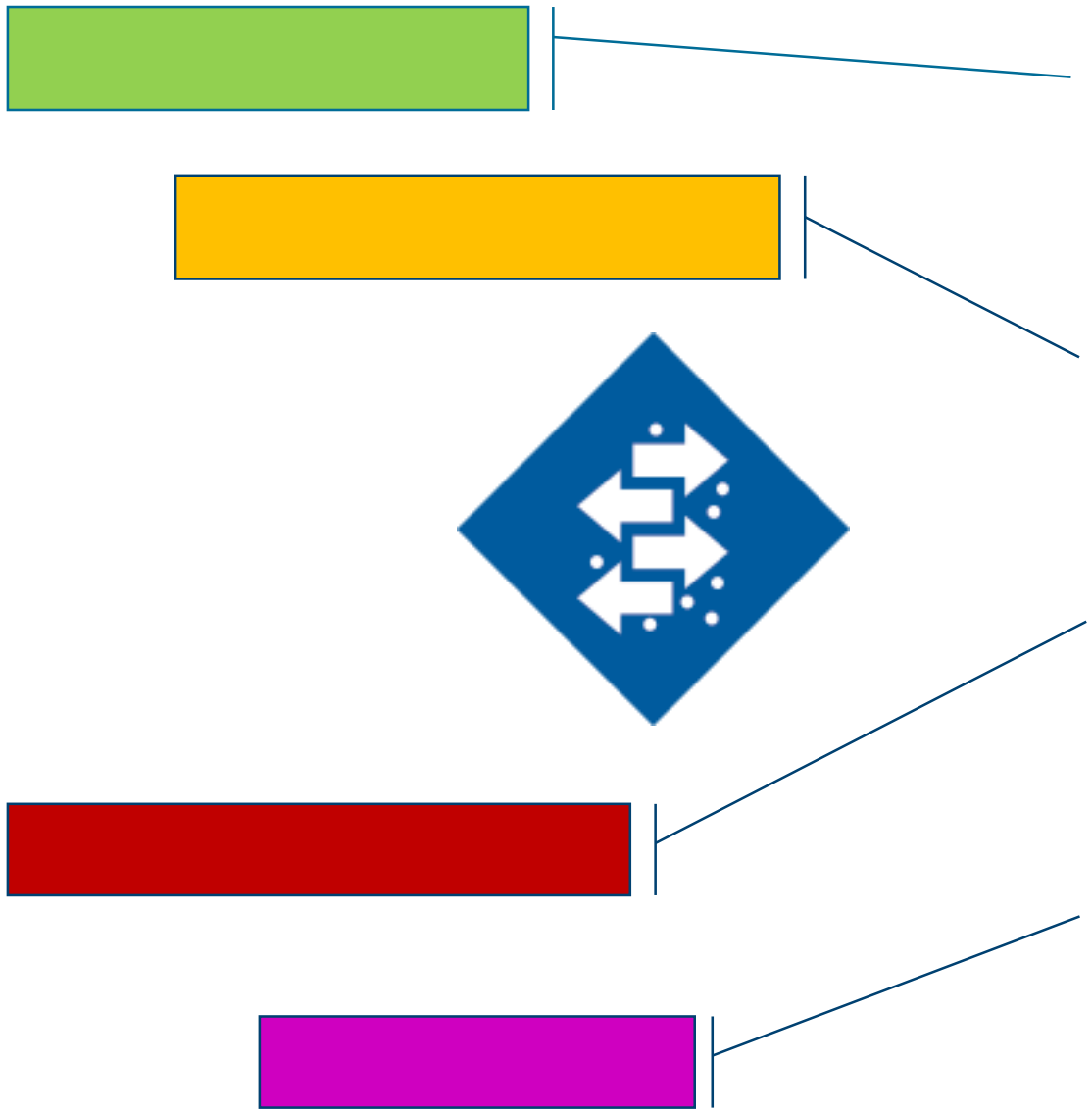
What could possibly go wrong?



For AI developers: from data to decision

For AI deployers

General public

Defense against the Dark Arts

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About data

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H *H* *H* *H* *H* *N* *M* *H*

H *H* *H* *HH* *H*

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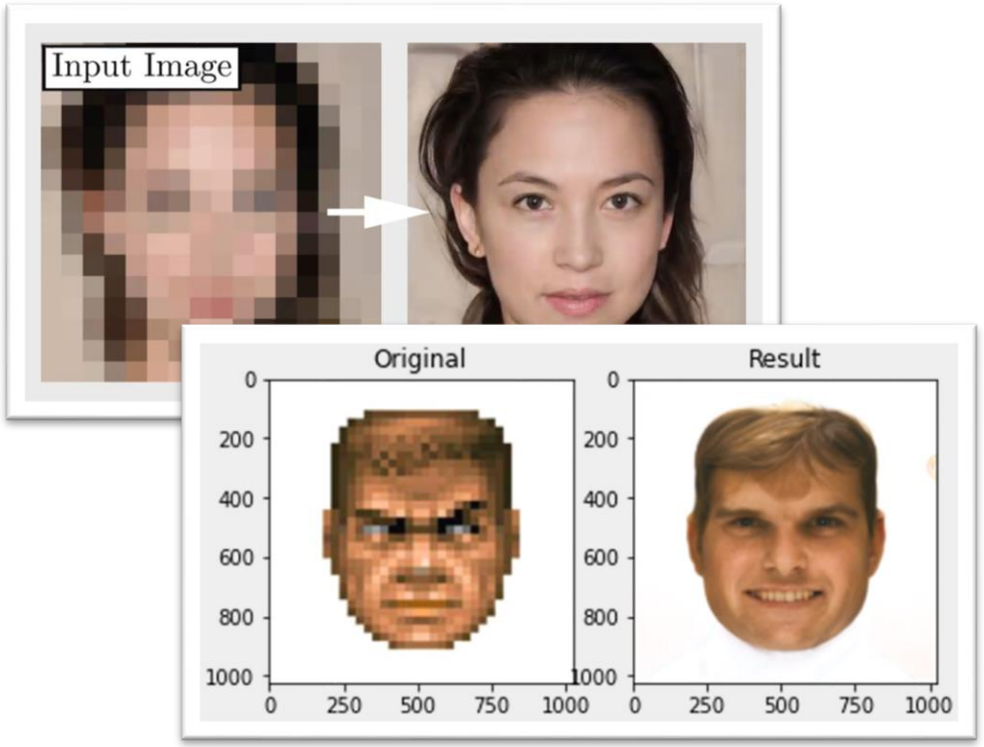
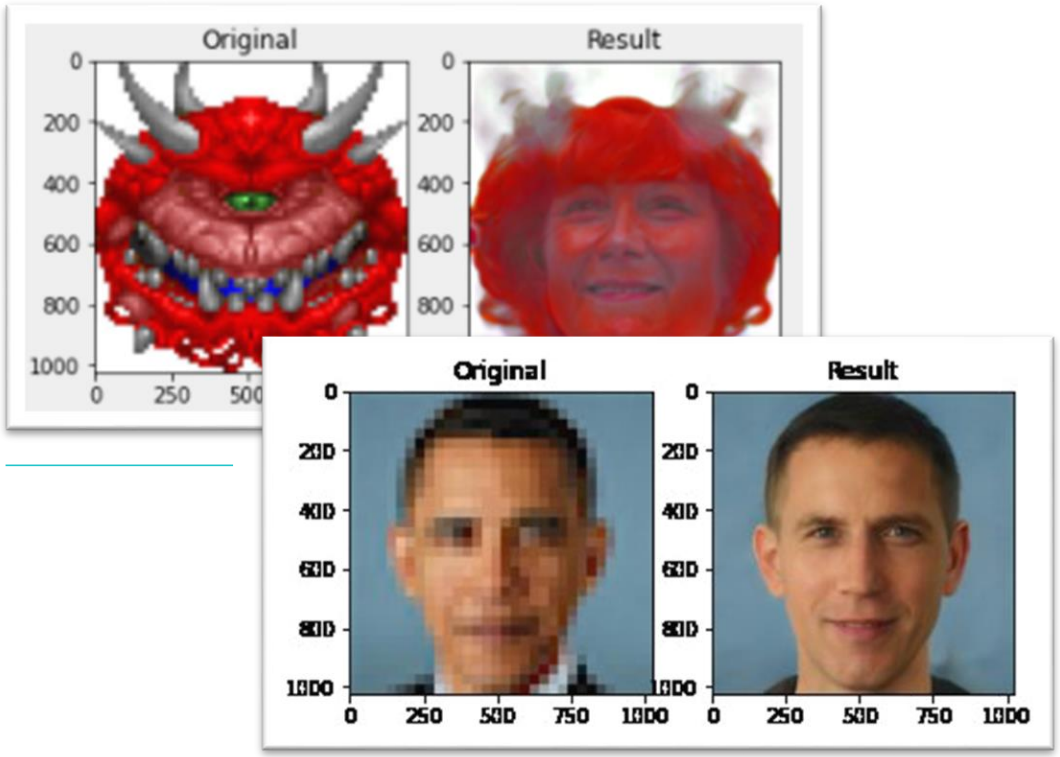
Limits on data → limits on results





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AI inherits biases from its creators

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Hidden correlations

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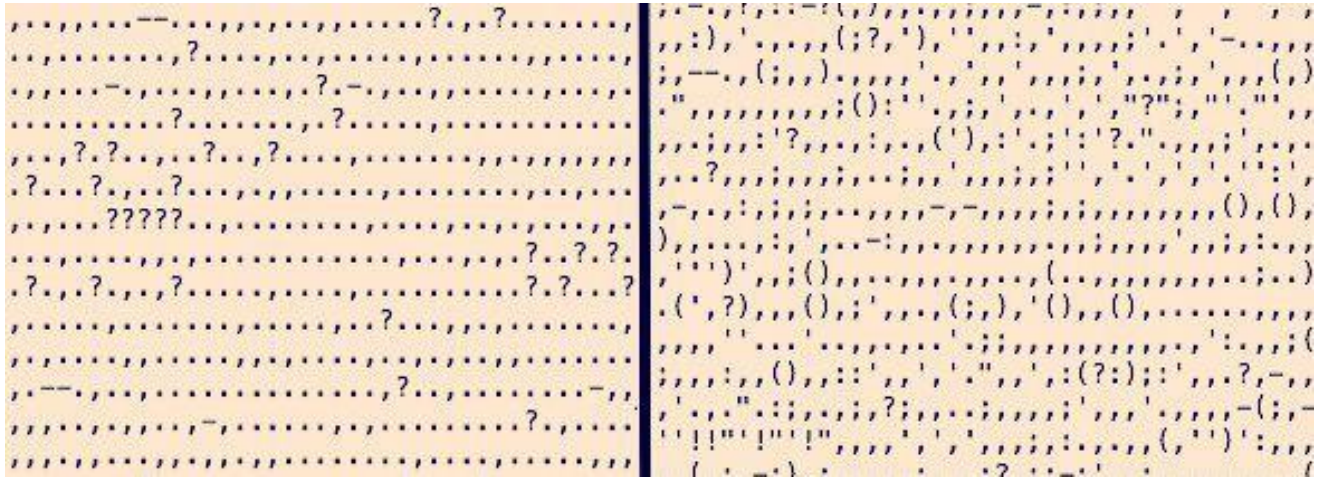
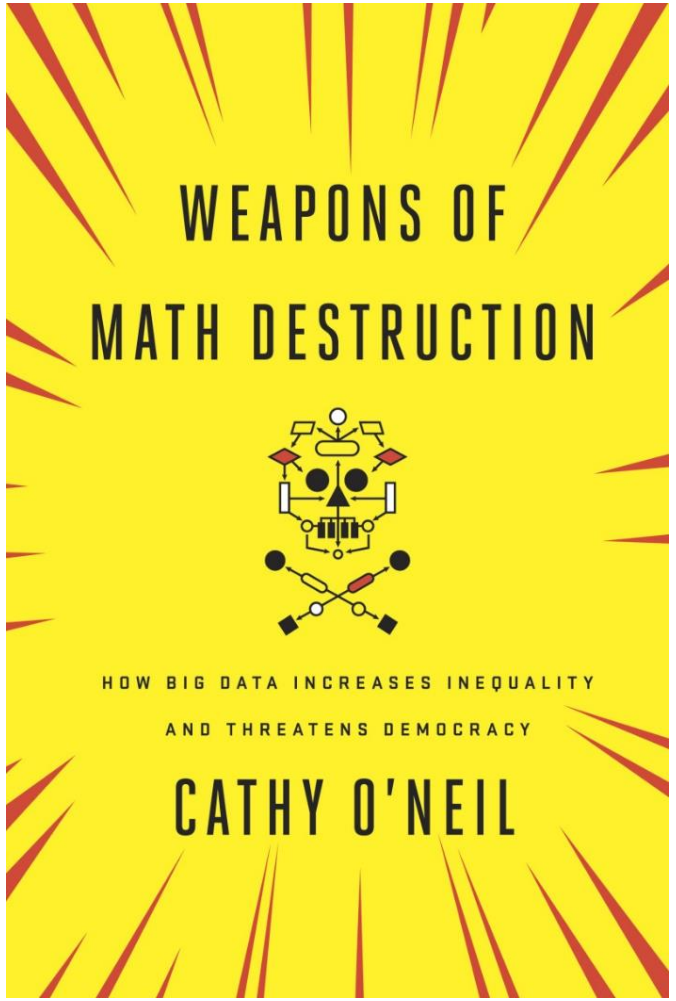
Confounding factors



Fairness



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Definition of objectives

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What could possibly go wrong?

For AI developers

For AI deployers: attacks against AI systems

General public

Defense against the Dark Arts

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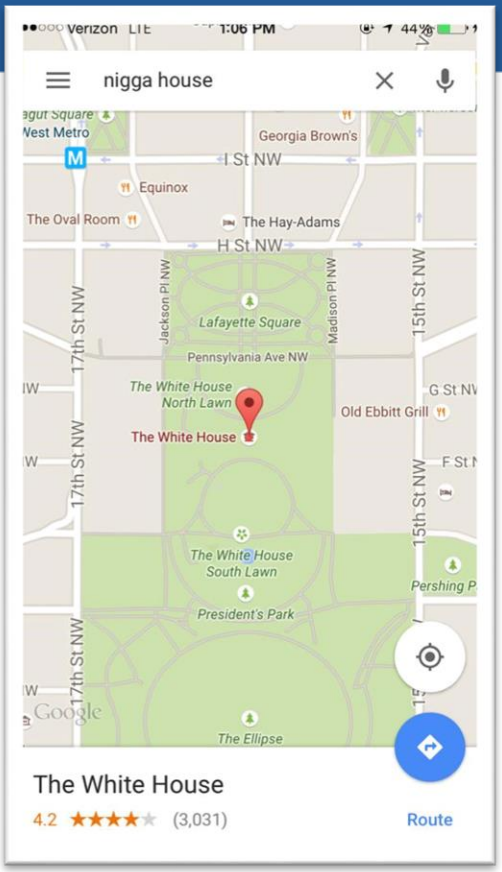
Data poisoning



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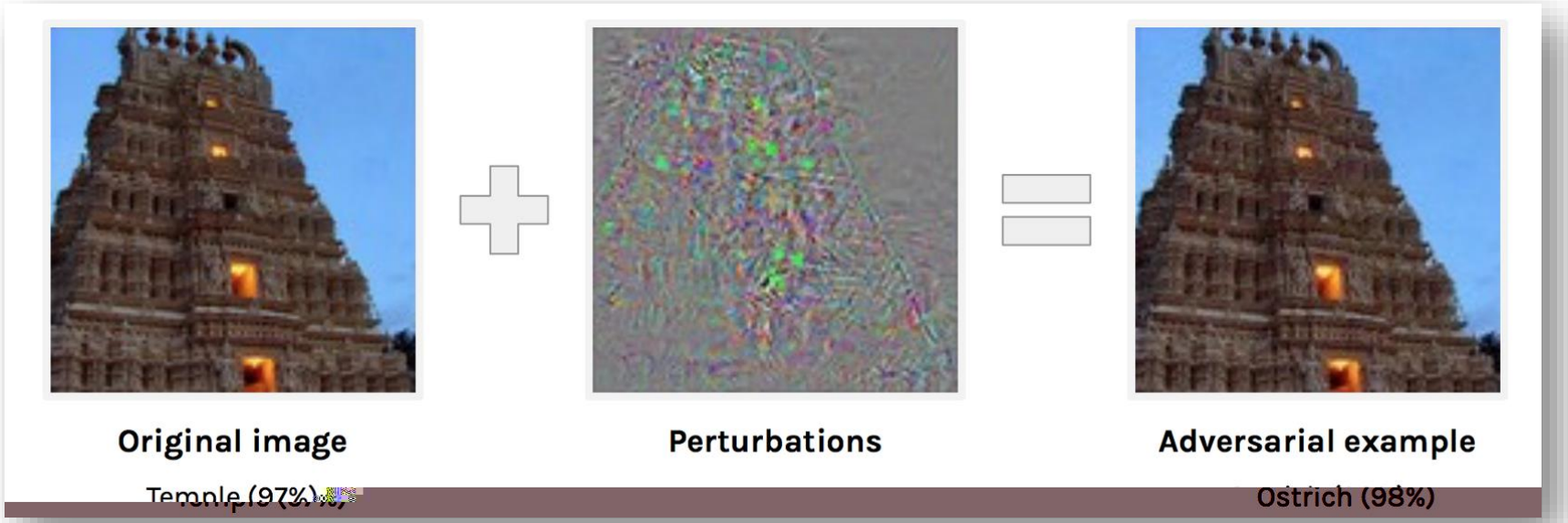
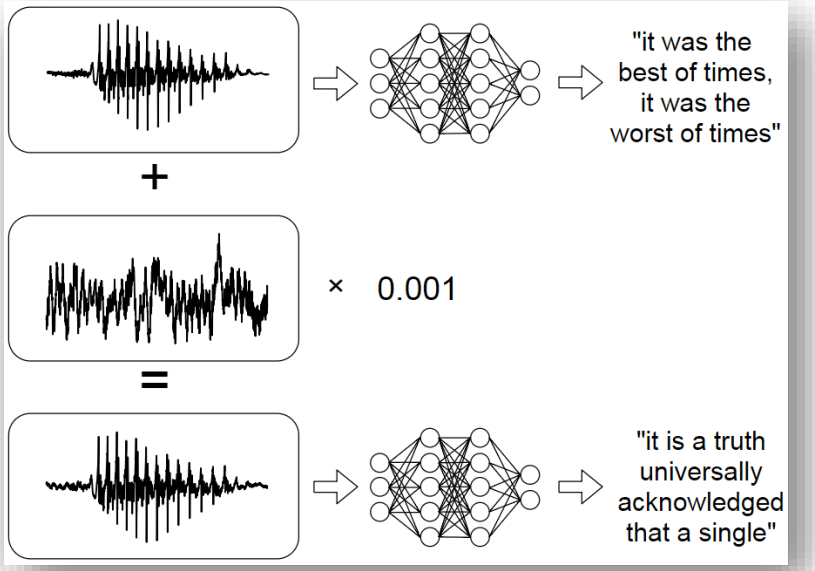
Adversarial examples





Adversarial examples

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What could possibly go wrong?

For AI developers

For AI deployers

General public: Abuse of AI systems

Defense against the Dark Arts

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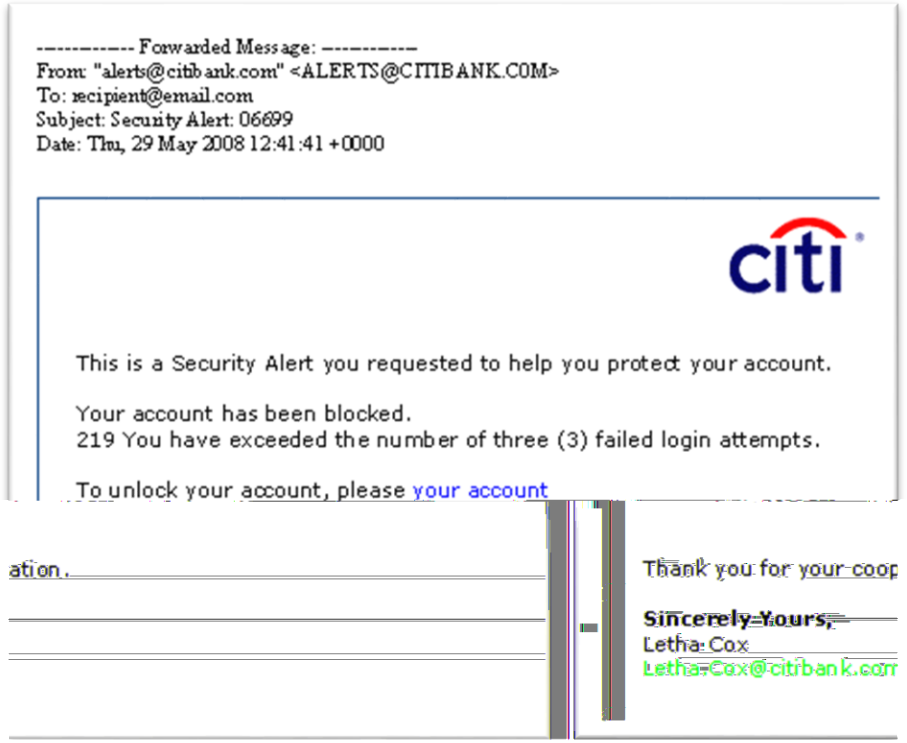
Spear / laser phishing



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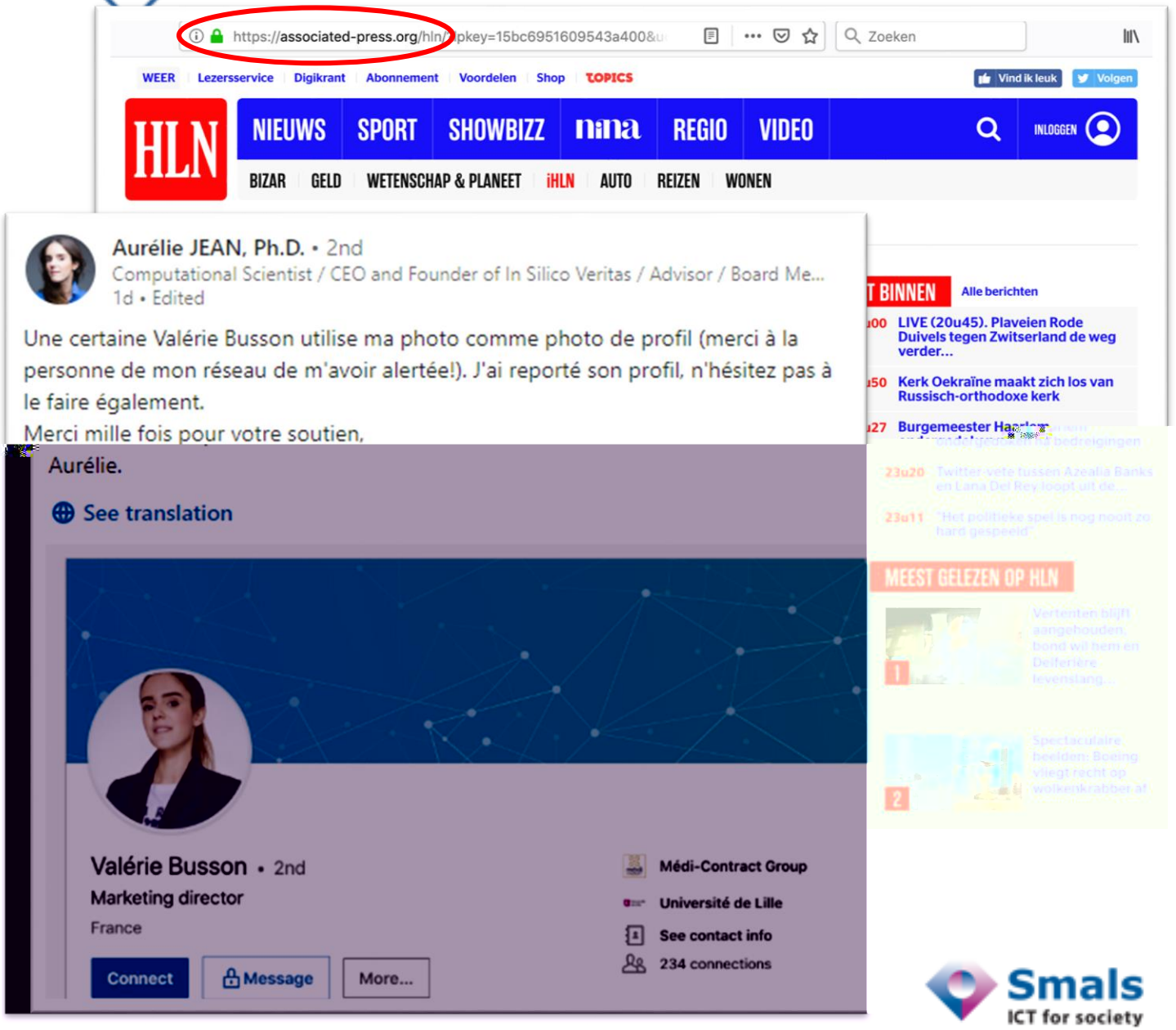
Fake websites / fake people



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N H H H H H

Can disinformation be generated?

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Generating fake text

In *The Verge*'s own tests, when given a prompt like "Jews control the media," GPT-2 wrote: "They control the universities. They control the world economy. How is this done? Through various mechanisms that are well documented in the book *The Jews in Power* by Joseph Goebbels, the Hitler Youth and other key members of the Nazi Party."

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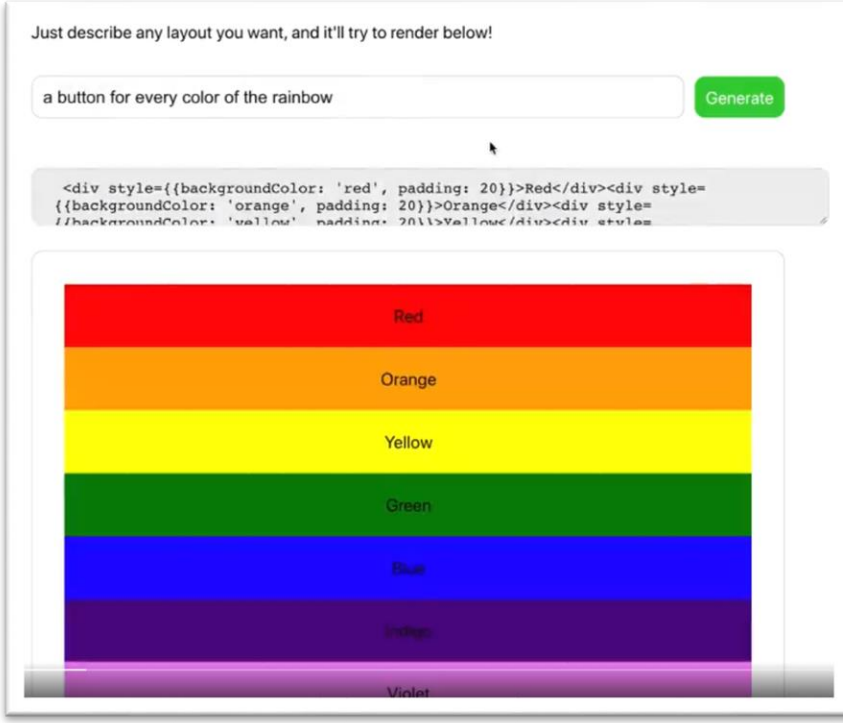
Generating Fake Text

What is the average number of influencers each user is subscribed to?

```
SELECT
  avg(count)
FROM
  (
    SELECT
      user_id,
      count(*)
    FROM
      subscribers
    GROUP BY
      user_id
  ) as avg_subscriptions_per_user
```



Q: How many eyes does a horse have?

A: 4. It has two eyes on the outside and two eyes on the inside.

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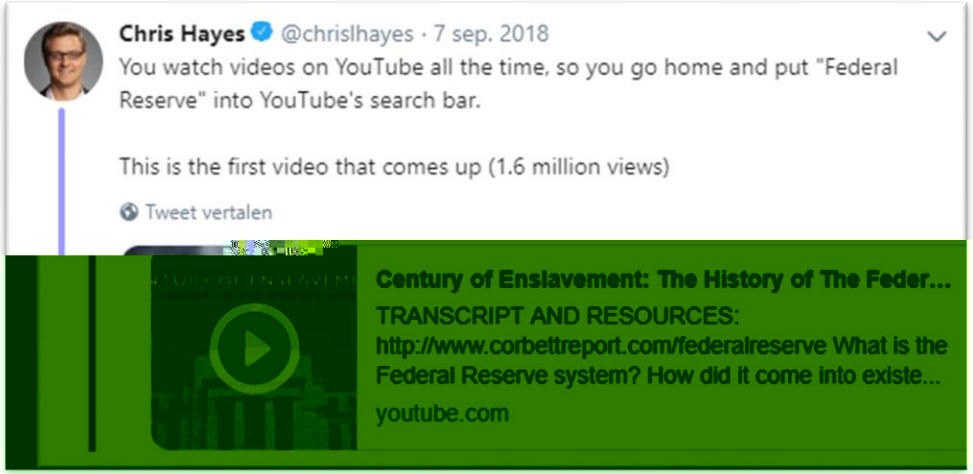
Amplification through recommendation

SCI-TECH

YouTube to blame for rise in flat Earth believers, says study

According to research almost everyone who believes in flat Earth theory got started on YouTube.

BY MARK SERRELS | FEBRUARY 17, 2019 8:05 PM PST



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Amplification through recommendation

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~~*H*~~

YouTube says it will recommend fewer videos about conspiracy theories

Taking steps to reduce the spread of misinformation

By Casey Newton @CaseyNewton Jan 25, 2019, 1:57pm EST

Societal impact

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What could possibly go wrong?

For AI developers

For AI deployers

General public

Defense against the Dark Arts

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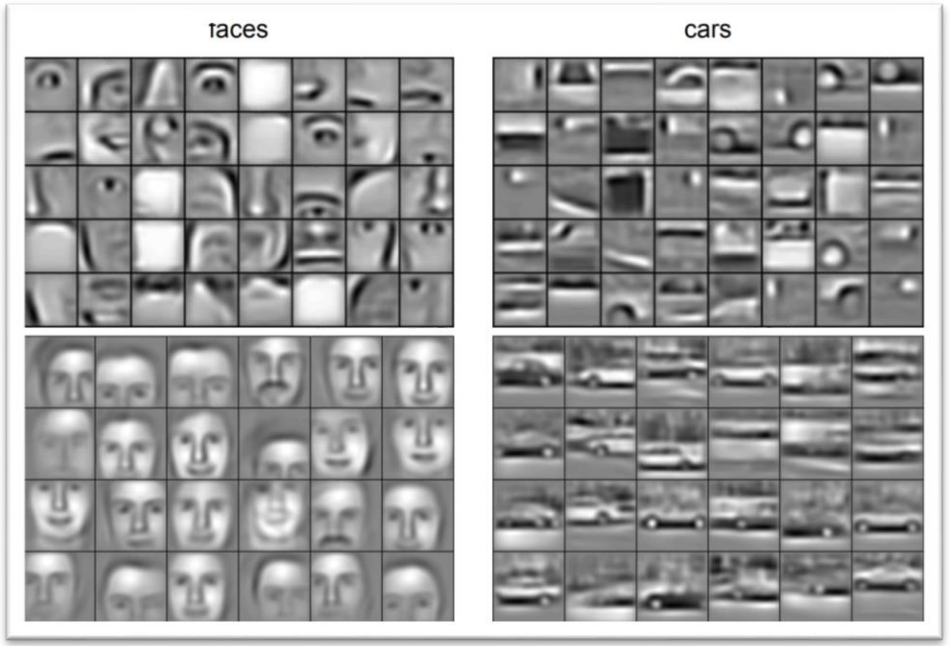
As a technical person



H H H H H

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As a citizen


BUSINESS INSIDER

HOME > TECH

Inside Facebook's suicide algorithm: Here's how the company uses artificial intelligence to predict your mental state from your posts

Benjamin Goggin
Jan 6, 2019, 5:19 PM

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As a policymaker

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Initiatives

DE VLAAMSE AI CURSUS

Beschikbare EDUboxen:

Évaluez la fiabilité d'une info

AI4Belgium
Artificial Intelligence by and for people

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Legal protection against AI abuse

Article 22

Automated individual decision-making, including profiling

1. The data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her.

2. Paragraph 1 shall not apply if the decision:

(a) is necessary for entering into, or performance of, a contract between the data subject and a data controller;

(b) is authorised by Union or Member State law to which the controller is subject and which also lays down suitable measures to safeguard the data subject's rights and freedoms and legitimate interests; or

(c) is based on the data subject's explicit consent.

3. In the cases referred to in points (a) and (c) of paragraph 2, the data controller shall implement suitable measures to safeguard the data subject's rights and freedoms and legitimate interests, at least the right to obtain human intervention on the part of the controller, to express his or her point of view and to contest the decision.

4. Decisions referred to in paragraph 2 shall not be based on special categories of personal data referred to in Article 9(1), unless point (a) or (g) of Article 9(2) applies and suitable measures to safeguard the data subject's rights and freedoms and legitimate interests are in place.

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On the EU level

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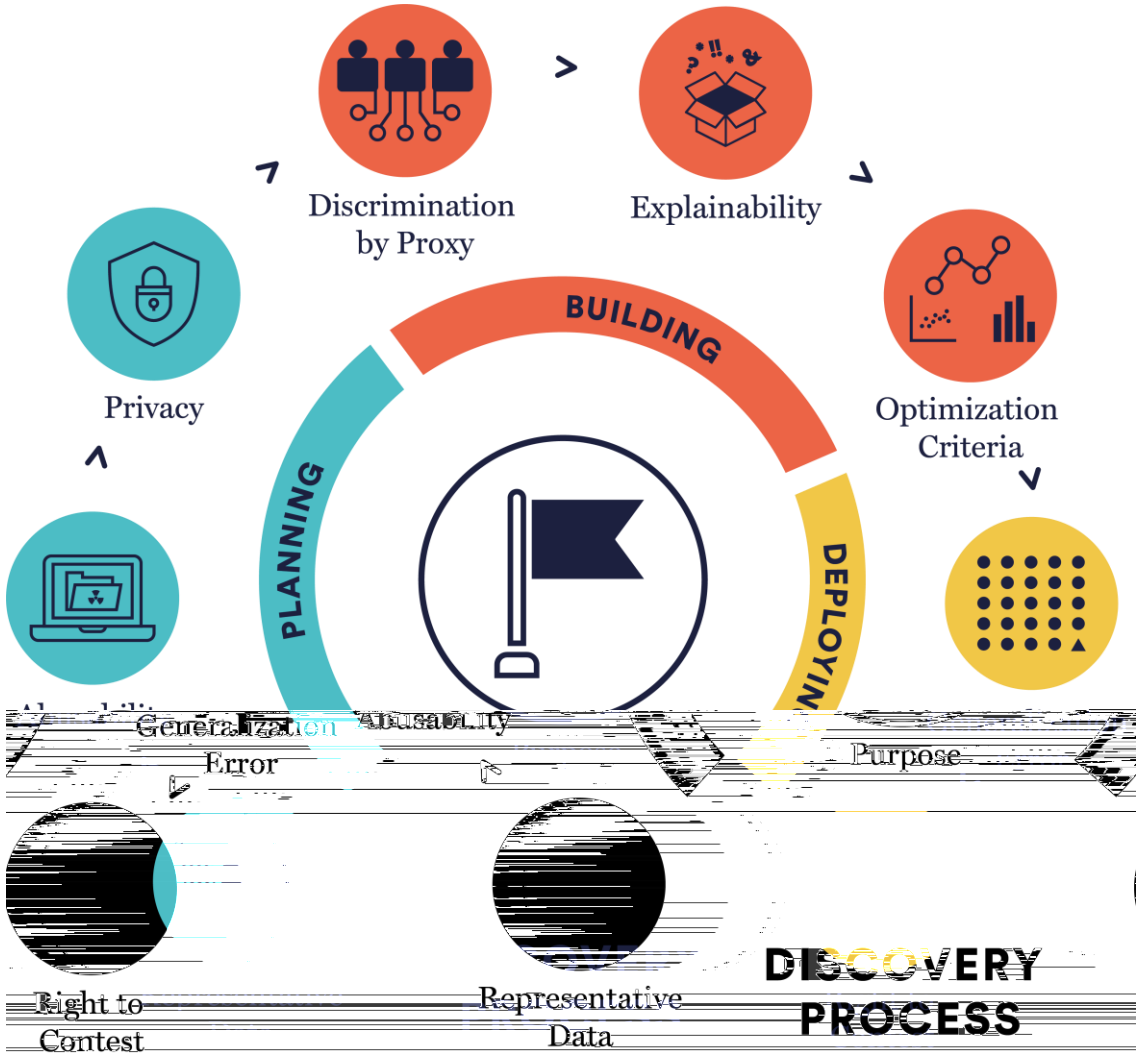
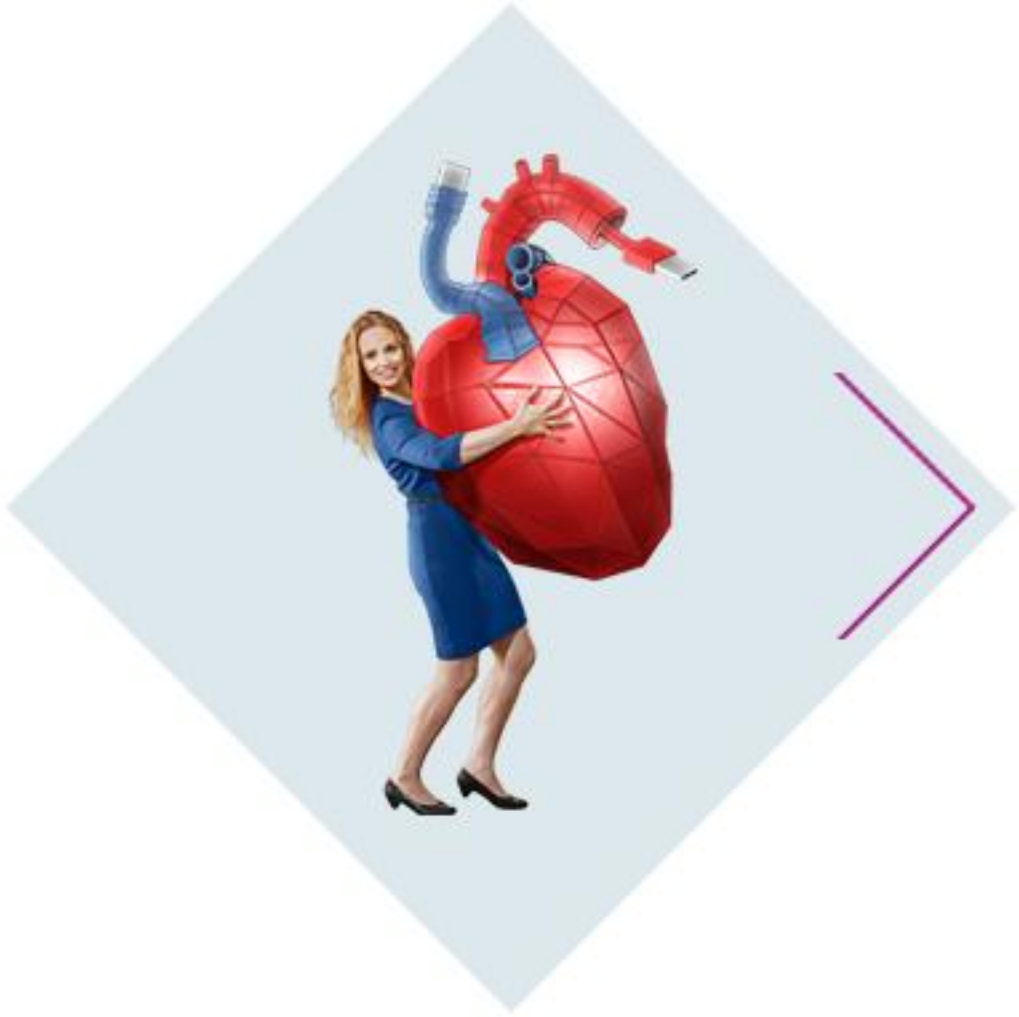
Further reading

Epilogue


Discrimination by Proxy
Explainability
Privacy
Optimization Criteria
BUILDING
PLANNING
DEPLOYIN
Error
Purpose
Right to Contest
Representative Data
DISCOVERY PROCESS



Thank you!

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joachim.ganseman@smals.be

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