

DECENTRIQ

Confidential Insights - A Platform for Privacy-Preserving Data Collaboration

June 2021, Swiss Conference on Data Science

Agenda

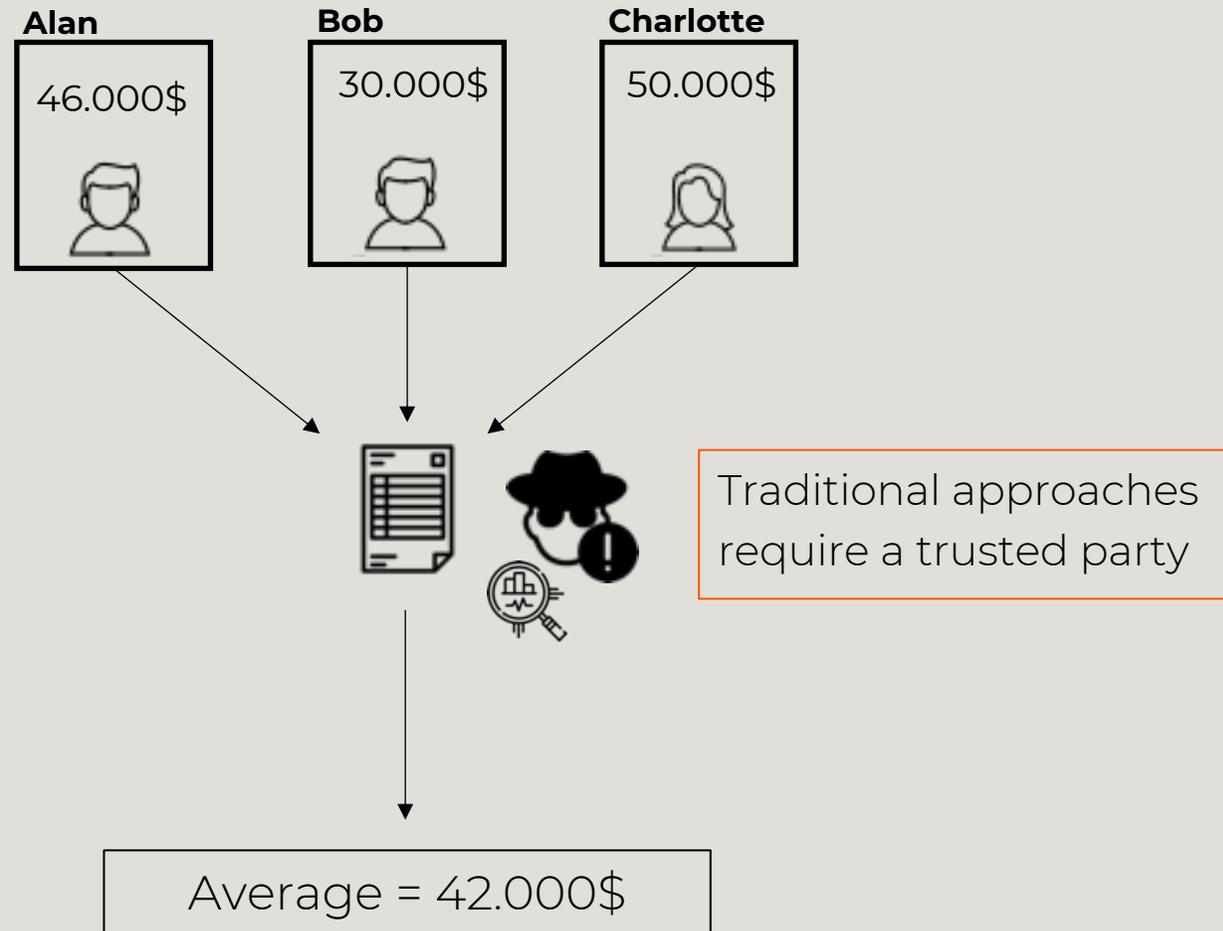
- 1.** The case for privacy in data collaboration
- 2.** Confidential computing technology
- 3.** Confidential Insights – Decentriq & Swisscom's confidential survey platform

The case for privacy in data collaboration



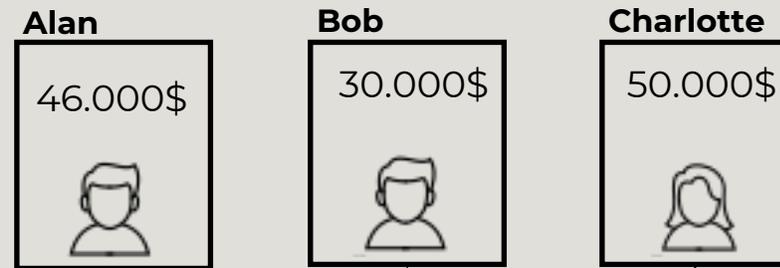
A simple example

Compute the average salary without disclosing the individual numbers



A simple example

Compute the average salary without disclosing the individual numbers

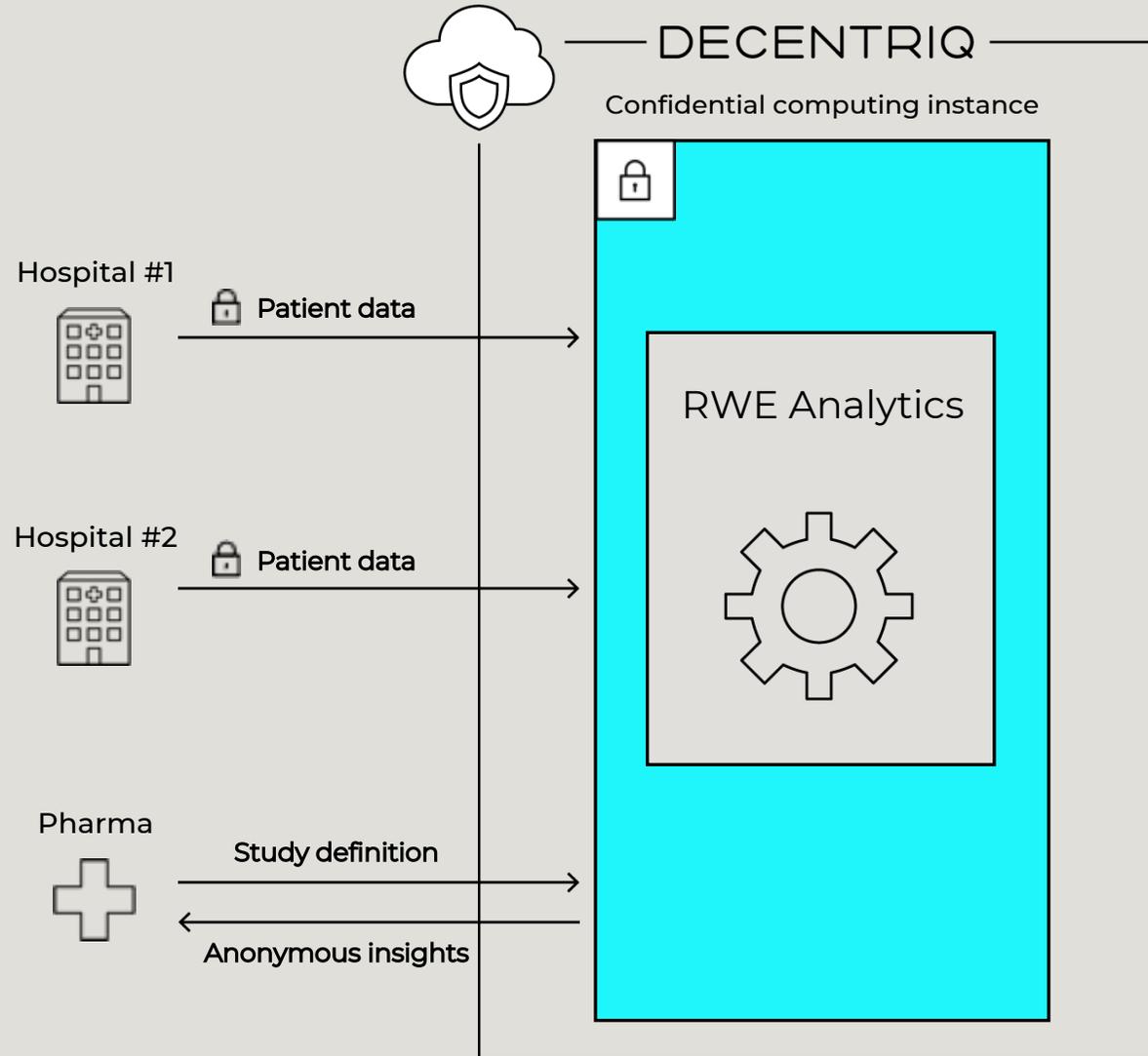


Confidential computing removes the need for a trusted party.

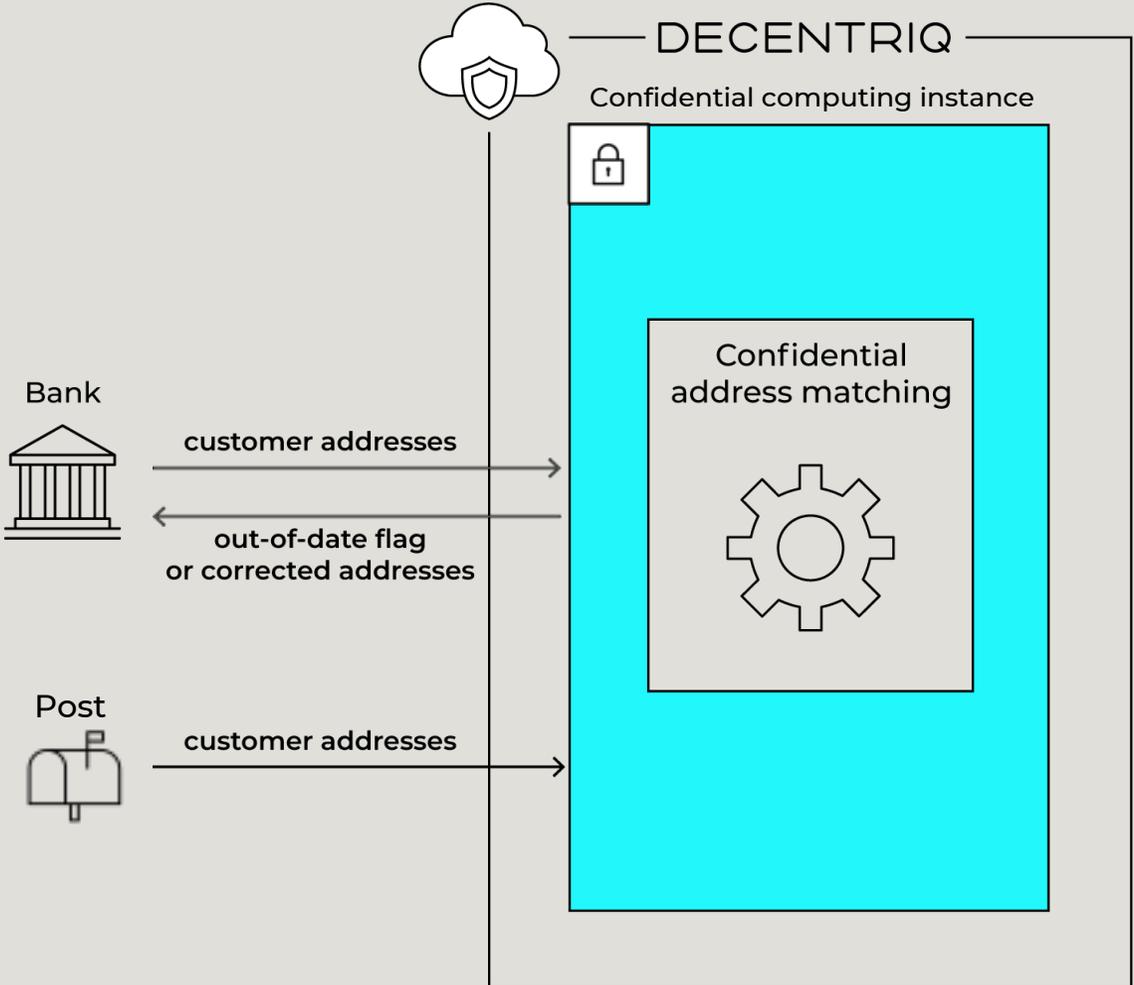
Input data stays provably confidential from users, platform operators, infrastructure providers.

Average = 42.000\$

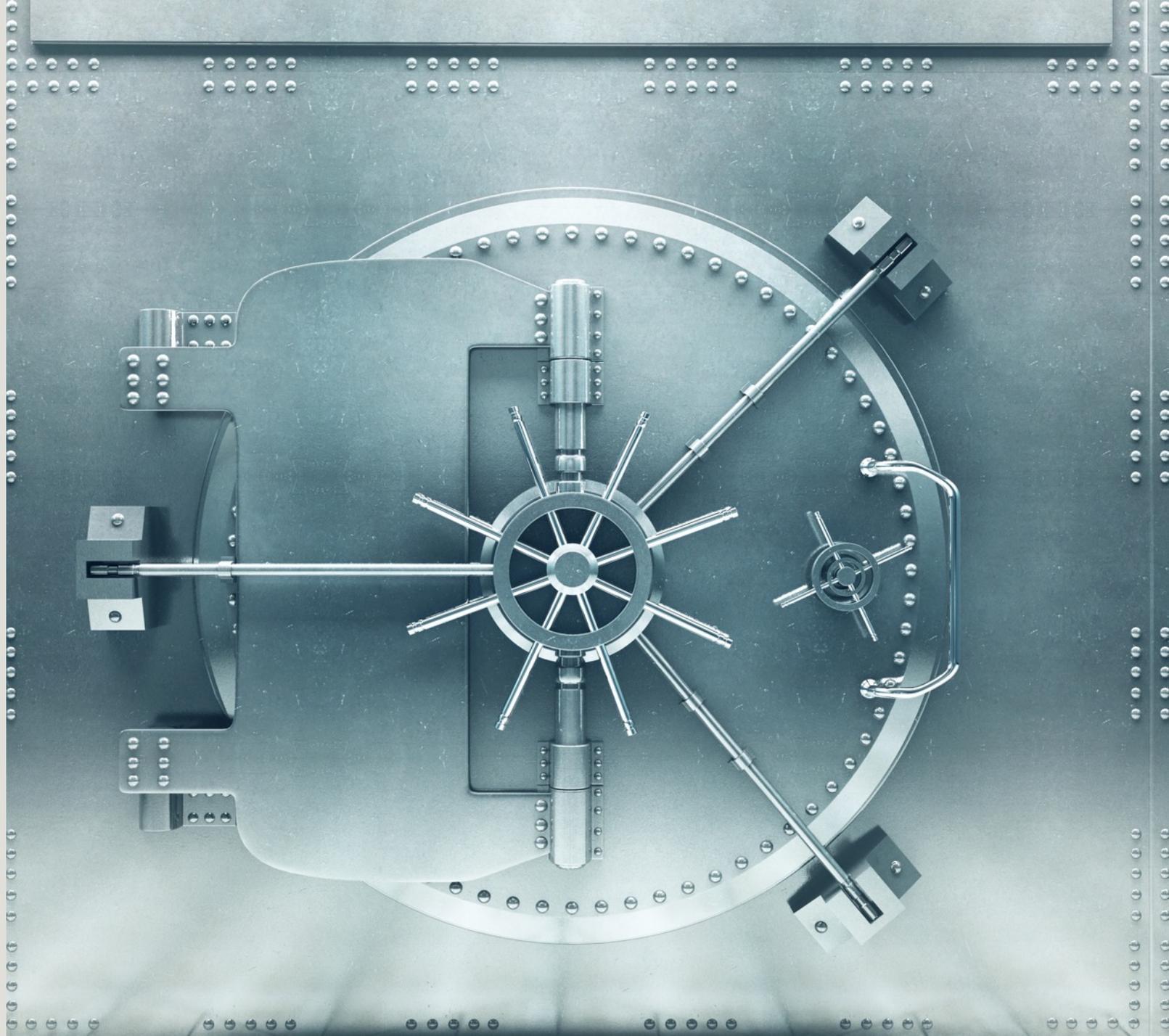
Confidential real world evidence studies



Confidential address verification



Confidential
computing
technology



Confidential computing guarantees

Confidential computing \longleftrightarrow Computing on unseen data

Based on *trusted execution environments*

- Leveraging new security features of Intel CPUs

Provable confidentiality guarantees

- Users cannot see the input data
- Platform provider cannot see the input data
- Cloud provider cannot see the input data

Securing data in all possible states



Data at rest

Data is encrypted when stored on hard disks

standard for decades

Data in transit

Data is encrypted when transferred (HTTPS/TLS)

standard for decades

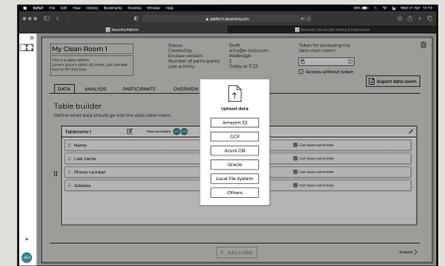
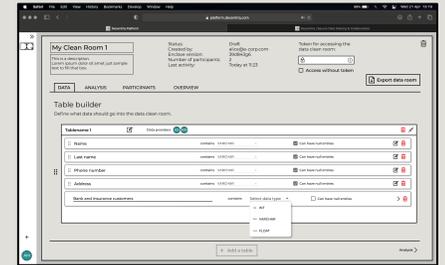
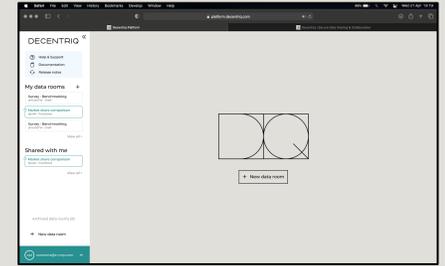
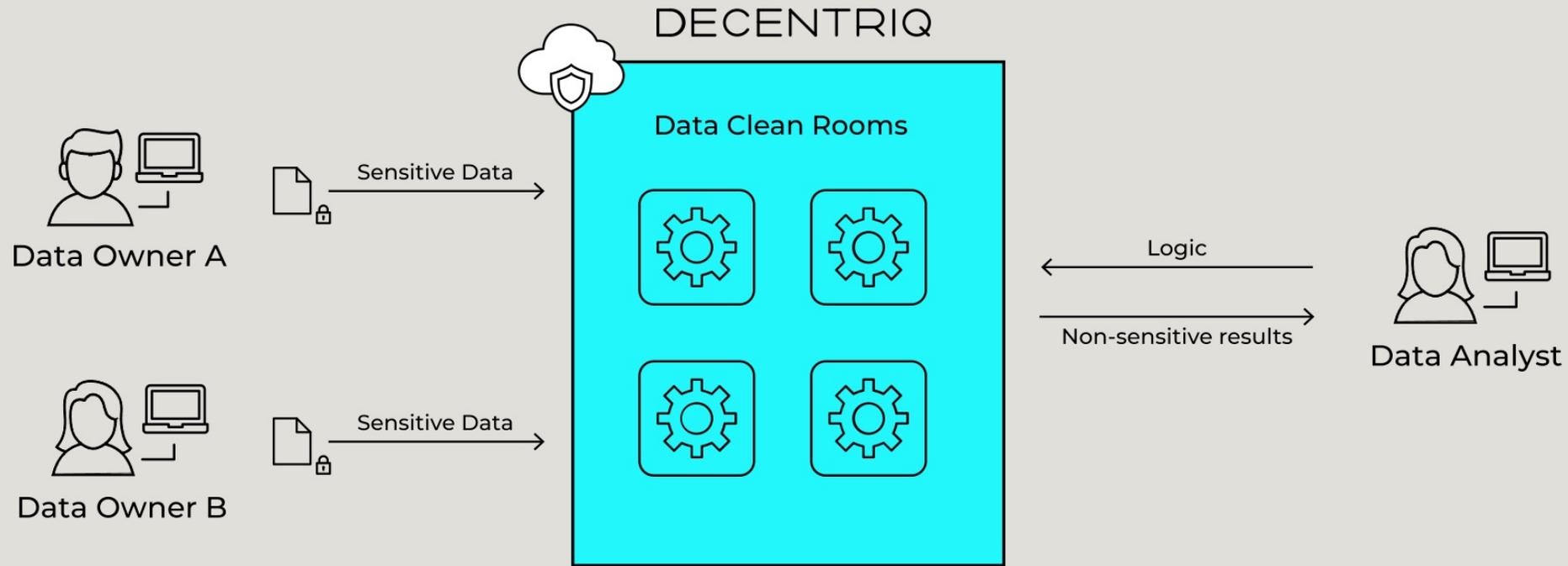
Data in use

Now data can be **encrypted also when computed**

impossible before confidential computing

The Decentriq platform

The basis for Confidential Insights



Confidential computing guarantees

Thanks to confidential computing, users have unprecedented guarantees



Confidential Insights

Decentriq &
Swisscom's
confidential
survey platform



Confidential Insights

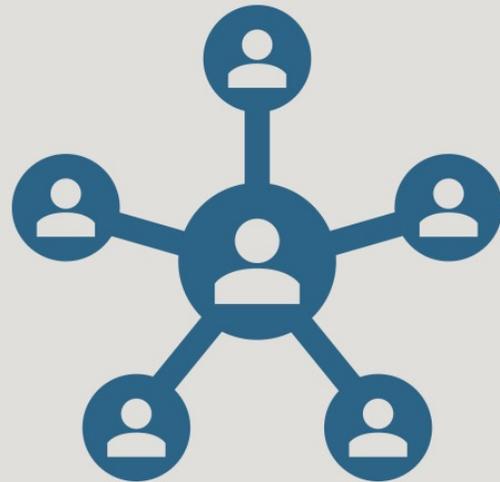
The problem

Would you feel comfortable answering the following in an employee survey?

Rate your boss from 0 to 10

The problem

With conventional survey platforms...
...the platform operator learns all inflowing data.



- Platform operator acts as the "custodian" for sensitive user data
- Users must entrust their data with the operator

The solution

But with Confidential Insights...
...the platform operator cannot see any answers.



- ✓ Platform operator is blind towards sensitive user data
- ✓ Users retain full control over their data

The solution

Survey Creator

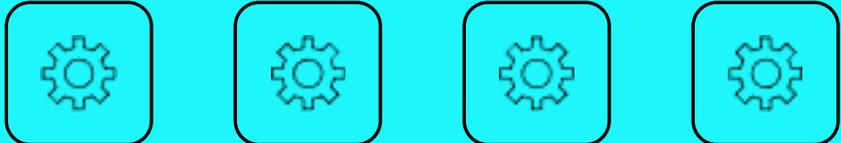


Survey Participants



Confidential Insights
Privacy-preserving surveys. Built on top of the Decentriq platform.

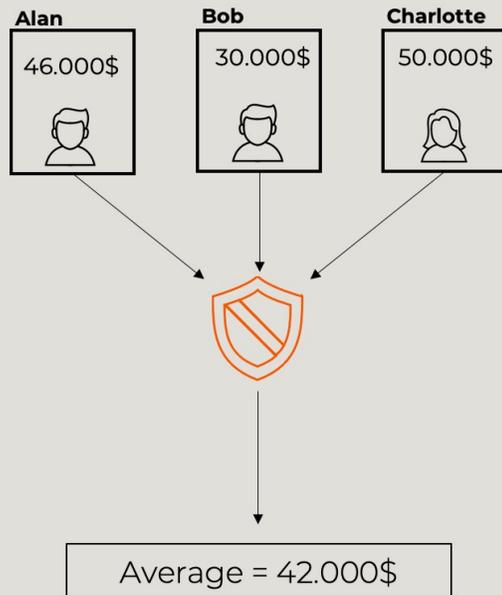
Data Clean Rooms



DECENTRIQ 

How to solve the average salary problem with Confidential Insights?

Compute the average salary without disclosing the individual numbers



The screenshot shows the Confidential Insights website. The main message reads: "Enabling collaborative data insights. For you and your peers. Provably confidential." Below this, it states: "We help you to create your own benchmarks with your peers. No further mediation needed. Whatever benchmark you may need, with Confidential Insights you and your peers can create it in just few clicks." A section titled "What is Confidential Insights?" follows, with the text: "Have you ever wanted to compare sensitive data with your peers but were concerned about data privacy? Whether you would like to compare customer acquisition costs, pricing data, or gender pay gap, whatever the metric may be, we give you and your peers the tools to learn from one another in a privacy-preserving way, in just a few clicks." At the bottom, the text "What makes Confidential Insights unique?" is visible.



Reference Case – A Survey in Banking



Online Mortgage Survey

Swisscom's banking think tank *e.foresight* used Confidential Insights for its annual online mortgage survey among 30 Swiss banks.

Some banks participated only because of the additional privacy guarantees.



“Confidential Insights is a tool with a lot of promise for surveys and benchmarks on sensitive data. It helped reassure some players to participate in our 2020 online mortgage study even though it included some sensitive data.”

Sophie Bayley, Trend Analyst & Innovation Consultant at e.foresight

Who can use Confidential Insights?

For organizations with a mutual interest in collaborative insights and with a need to maintain data privacy.



Banks & FIs

For example, comparing risk metrics (market, credit, operational or compliance risk) with other banks or jointly calculating reference prices based on confidential price data.



Corporates

For example, comparing credit risk, remuneration models or gender pay gap data across organizations.



Academia

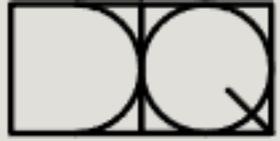
For example, conducting surveys on sensitive data.

Try it yourself!

<https://confidentialinsights.com>

Rate your boss from 0 to 10

- Confidential Insights lets you give honest answers without worrying about their privacy
- Confidential computing opens completely new ways of using data while guaranteeing privacy



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Thank You!

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