



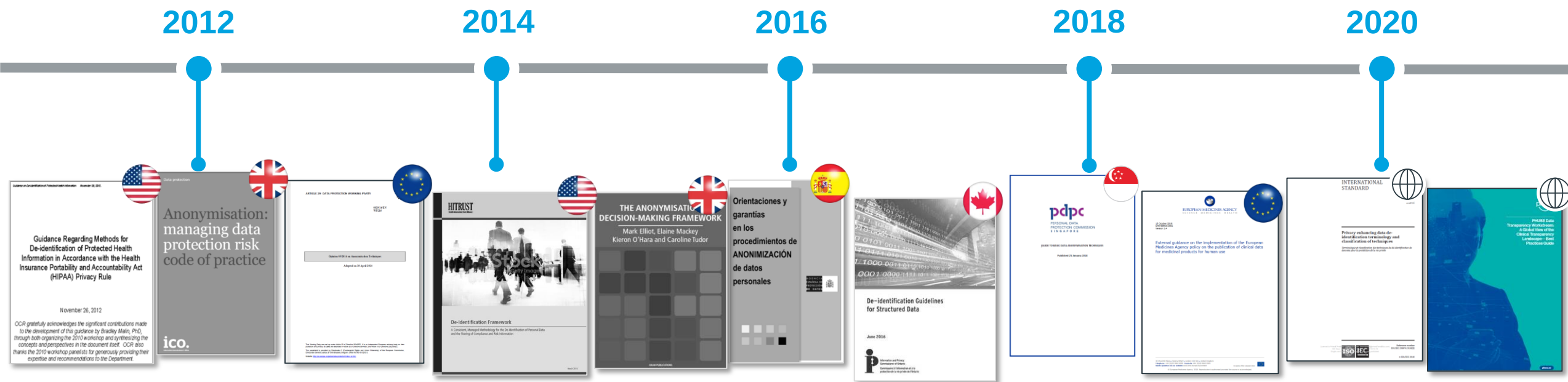
Using AI-Based Technology to Accelerate Clinical Trial Data Sharing & Reuses

PHUSE US Connect 2022

Privacy Analytics, an IQVIA company

Recognized as a pioneer and leader in **data privacy and anonymization**, our solutions enable organizations to responsibly use sensitive data assets to drive value with the richest possible data while managing risk.

Our methodology has informed standards and regulations globally (sample of examples below) and our team consists of world leading experts in data privacy.



Our vision

Lead the way in transforming the future of innovation and human achievement through the **safe** and **responsible** use of **sensitive data**.

Our mission

To create **disruptive solutions** that harness our advanced technology and expertise to safely unlock the value in sensitive data, empowering organizations to **improve people's lives**.

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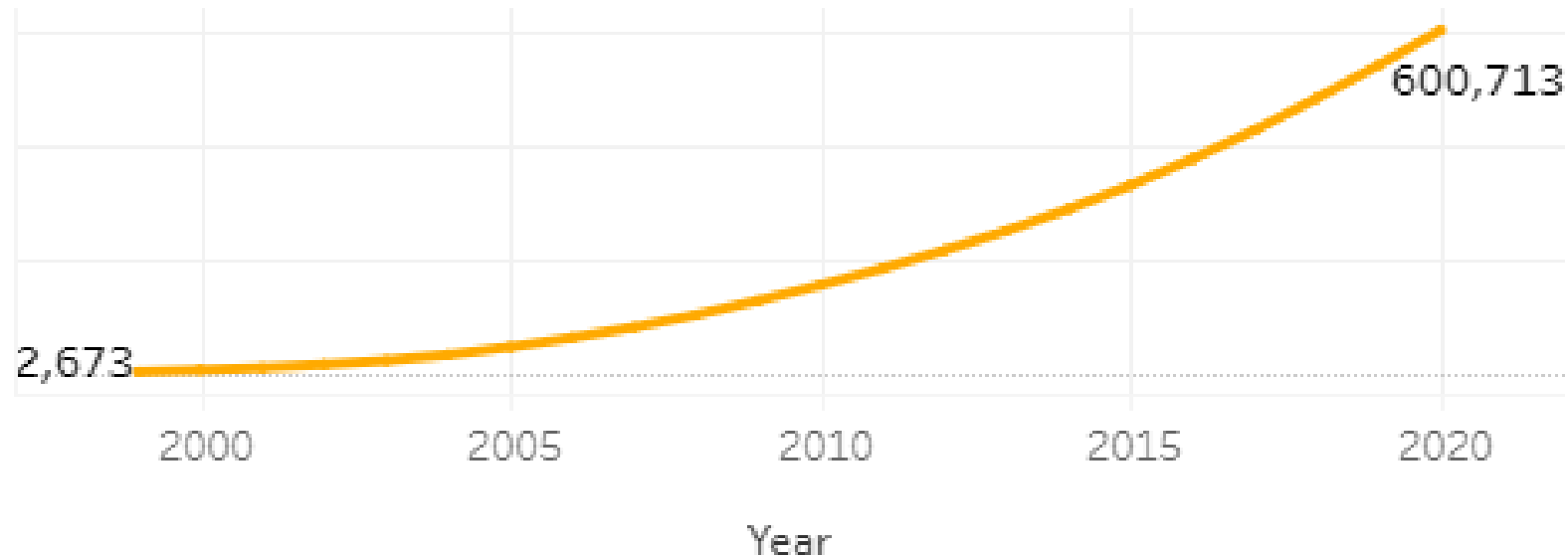
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That's 6% faster than manufacturing, 10% faster than financial services, and 11% faster than media & entertainment.

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Number of clinical trials conducted world-wide per year



<https://www.who.int/observatories/global-observatory-on-health-research-and-development/monitoring/number-of-trial-registrations-by-year-location-disease-and-phase-of-development>

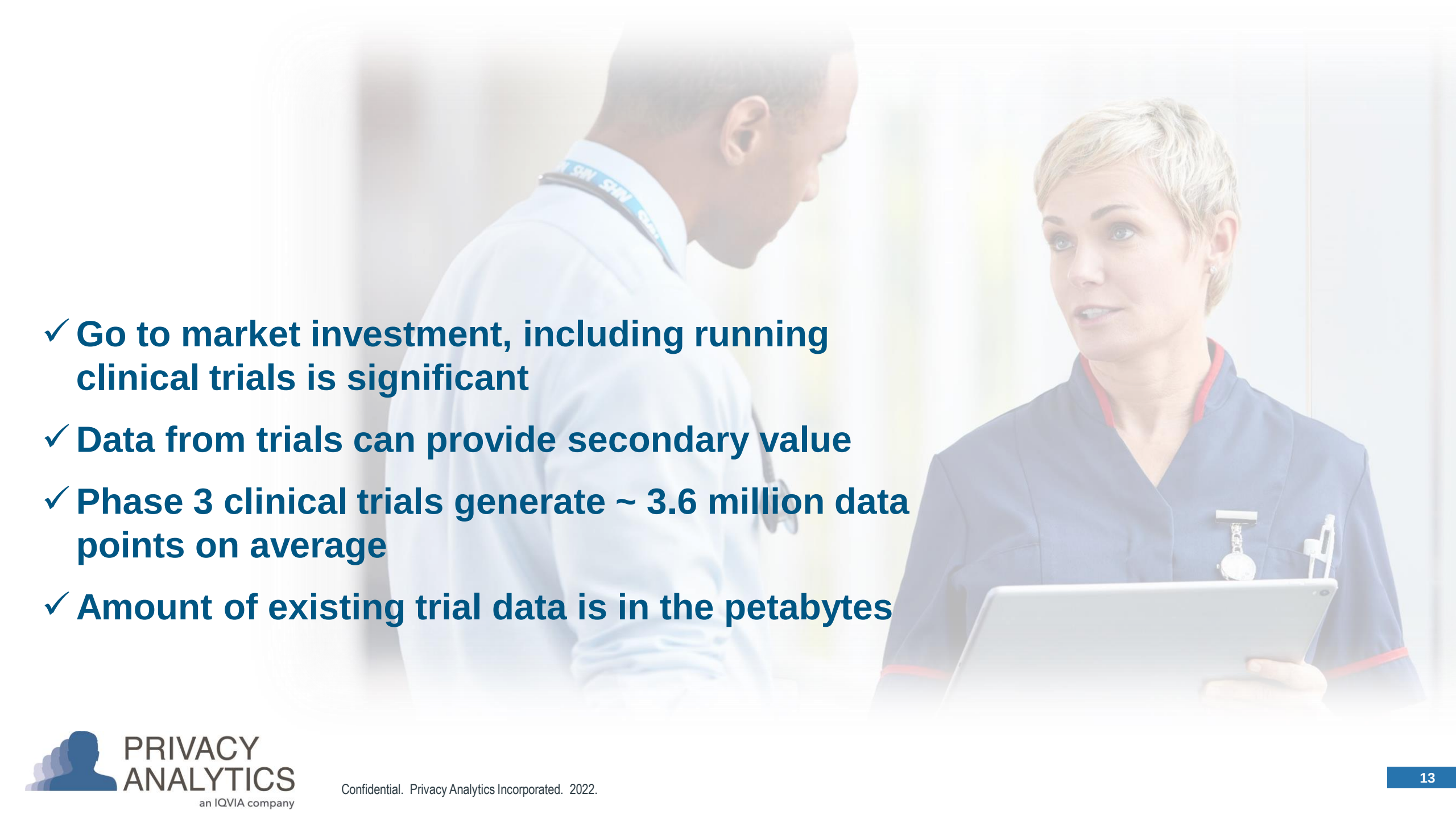




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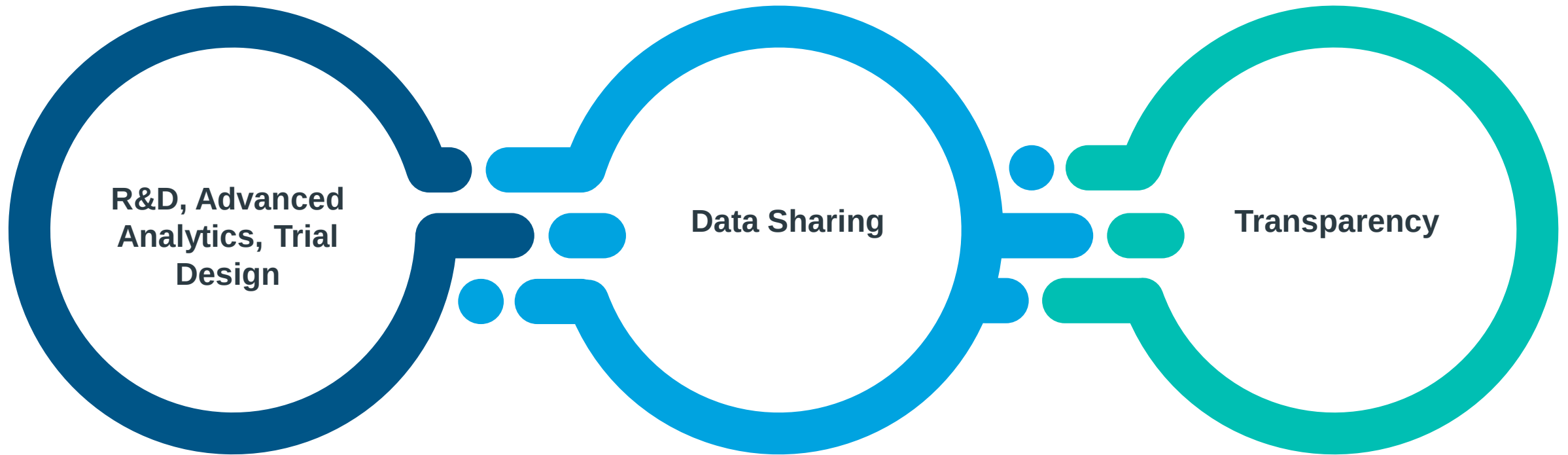
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- ✓ **Go to market investment, including running clinical trials is significant**
 - ✓ **Data from trials can provide secondary value**
 - ✓ **Phase 3 clinical trials generate ~ 3.6 million data points on average**
 - ✓ **Amount of existing trial data is in the petabytes**

Without effective re-use of trial data, it's clear that no organization, no matter how large, has enough or the right data across all the therapeutic areas that they work in. And ethically, we owe it to the patients who donate their time and their data in the trial process, to use that data to the fullest. ”

Aaron Mann

Senior Vice President
Data Science, Clinical Research Data Sharing Alliance

Why use trial data for secondary purposes?



Real data = real **people**

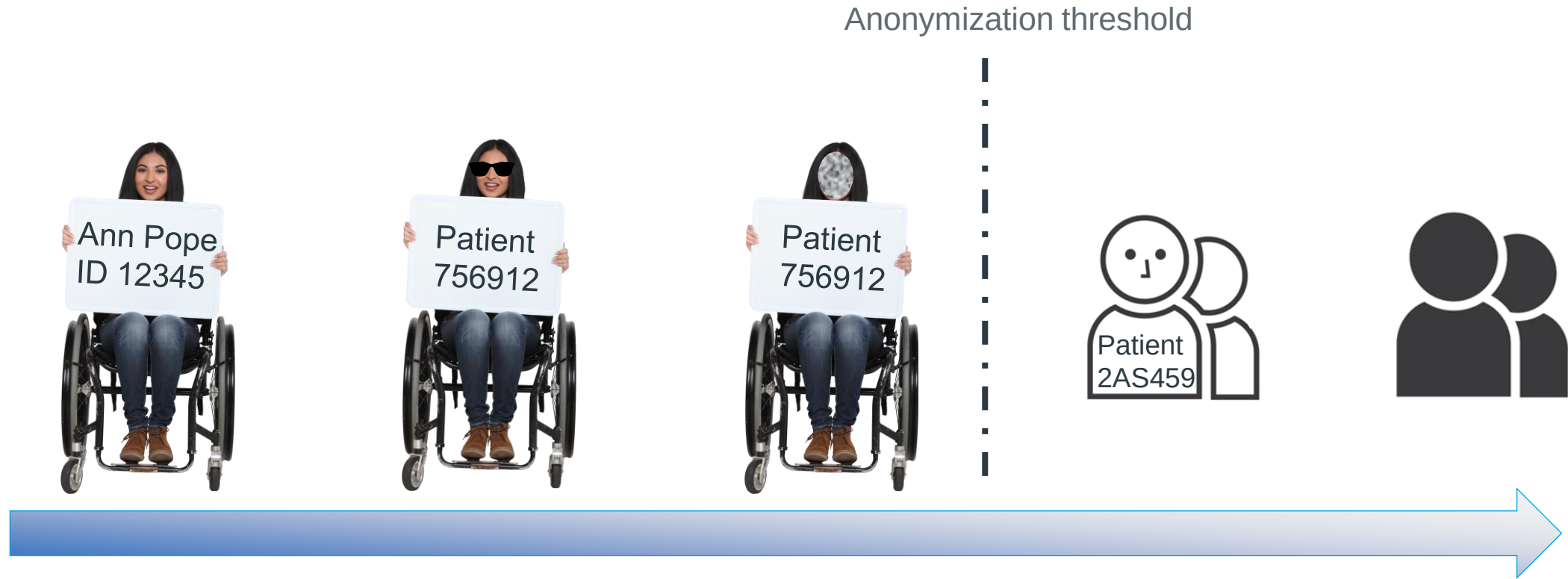
Privacy is paramount!



Anonymization?

Process of **transforming data** to **no longer be considered personal information**, and therefore able to be used for **secondary purposes**.

Anonymization?



Scalpel vs Sledgehammer

Redaction

Subject 899-456 was a 34-year-old female with a medical history of coeliac disease.



Subject [PPD] was a [PPD]-year-old [PPD] with a medical history of [PPD].

Statistical Anonymization

Subject 899-456 was a 34-year-old female with a medical history of coeliac disease.



Subject 454-994 was a 30-35-year-old female with a medical history of autoimmune disorders.

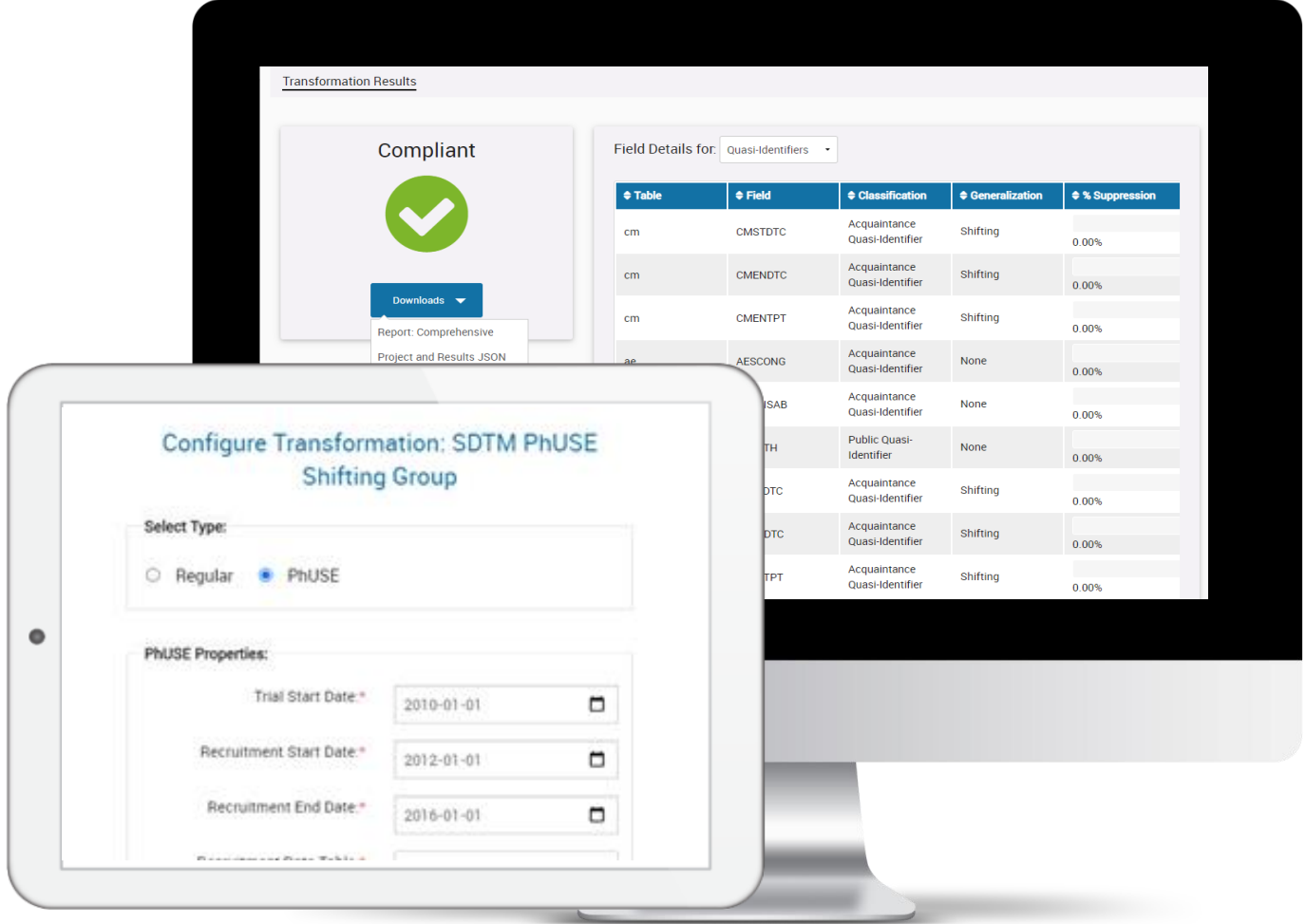
Perceived Barriers:



Concerns...

- That anonymization will reduce the **data utility** and value of data
- That anonymization is too **manual**, reliant on **experts** and too burdensome to implement at any sort of **scale or flexibility**
- That anonymization solutions can't integrate into **existing pipelines**
- About the requirements of GDPR or other privacy **regulations** and need for **enterprise solutions** with audible proof and enforced repeatability

Solution: AI Technology



AI Technology can...

AI Technology can...

1. Maximize data utility. By using advanced statistical modelling techniques and machine learning, you can ensure that data is transformed optimally for specific use cases and data utility isn't eroded unnecessarily.

AI Technology can...

2.Ensure sufficient privacy. By also using advanced statistical approaches and machine learning, you can ensure the risk of identifying someone is defensibly mitigated.

AI Technology can...

3.Enable speed and scale. Built on powerful enterprise technologies and architectures, anonymization solutions can handle all sizes and complexities of data, from small, focused trials to large global studies.

AI Technology can...

4.Enable high automation and efficiency.

Also by leveraging advanced AIML technologies, anonymization solutions can enable high automation of the process, including integration in data pipelines, reducing reliance on manual inputs or statistical/regulatory expertise

AI Technology can...

5. Implement governance and compliance.

By implementing enterprise technology solutions, built by experts in regulatory privacy requirements, defensible, repeatable and compliant anonymization processes can be enforced and audited requirements that are compliant with global regulations

Case Study



Novartis shines as an industry innovator and data sharing leader

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Situation

- Multiple objectives to promote transparency, data sharing and innovation goals as an industry leader:
 - Share clinical study data with regulators, researchers, the public, and academic collaborators
 - Bring over 2 million patient years of data to life for internal drug discovery and innovation

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Solution: IQVIA's Privacy Analytics services & software

- Privacy Analytics partnered with Novartis to enable data sharing and regulatory submissions, with scalable AI based anonymization solutions
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Results working with IQVIA's Privacy Analytics

- **Internal research – from weeks to minutes with [data42](#):** 1000s of historical clinical processed and anonymized in seconds for research & innovation by internal data scientists
- **Research collaboration & accelerated COVID data sharing:** Making data safely accessible for research
 - Large volume of studies available for sharing via research portals
 - [Ranked #1](#) (Good Pharma Scorecard) in transparency & sharing
 - Recognized contributor to industry research & innovation, e.g. [BIOMAP](#)
- **Regulatory submissions and public data access**
 - 20+ regulatory submissions anonymized
 - Data made available for public access under transparency policies

Takeaway:

Anonymization **unlocks potential** from clinical trial assets

AI technology **accelerates** it!





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