



DH02 – Data Engineering Project

(Educating for the Future PhUSE Working Group)

Presentation:

Guy Garrett, *Achieve Intelligence*

Bev Hayes, *Janssen Research & Development*

Demonstration:

Sascha Ahrweiler, *Bayer*

Mark Bynens, *Janssen Research & Development*

Contribution:

Amy Gillespie, Beate Hientzsch, Jagdev Bhogal, Jatin Patel, Karnika Dalal, Mark Bynens, Mike Carniello, Paul Slagle, Sascha Ahrweiler, Shaaz Ansari, Vijay Pasapula, Vince Marinelli

Special thanks:

Ian Fleming, James McDermott, Wendy Dobson

<https://education.phuse.eu/eftf/data-engineering/>



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Contribution:

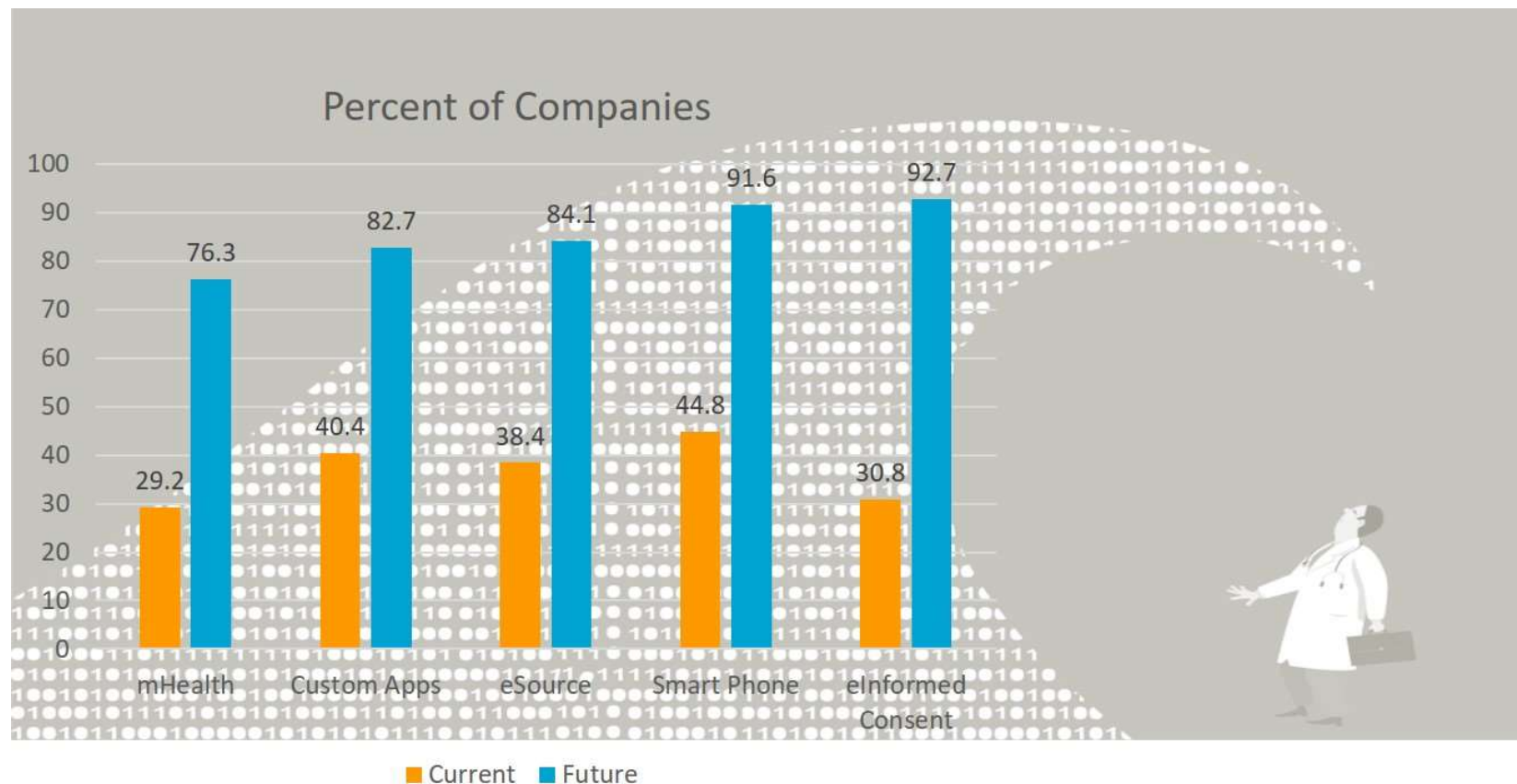
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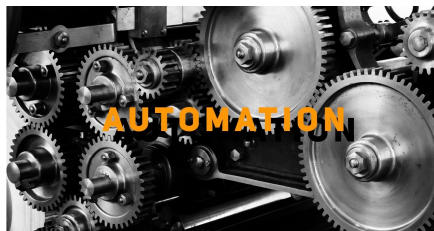
Data Sources Used Currently and Projected Use in 3 Years



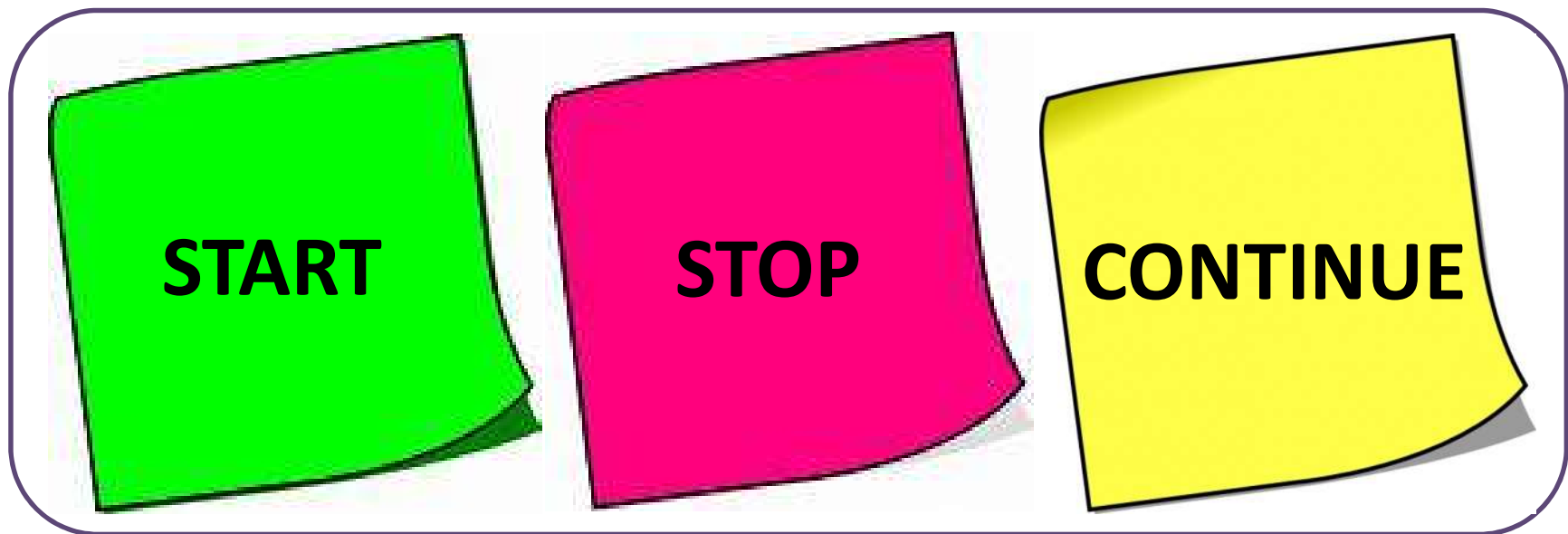
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Source: Tufts – Veeva 2017 EClinical Landscape Study. Tufts University, 2018, pp. 11–13, Tufts – Veeva 2017 EClinical Landscape Study.

Data Engineering Project Overview



What is Data Engineering?



Data Engineering Project Overview



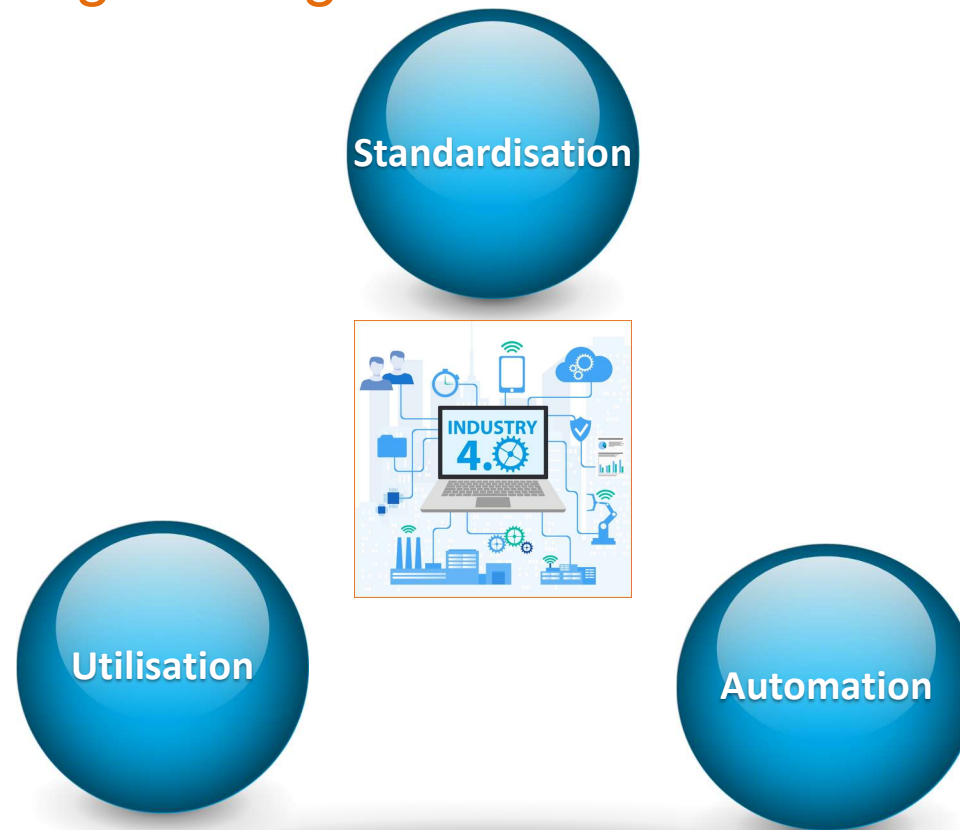
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What is Data Engineering?

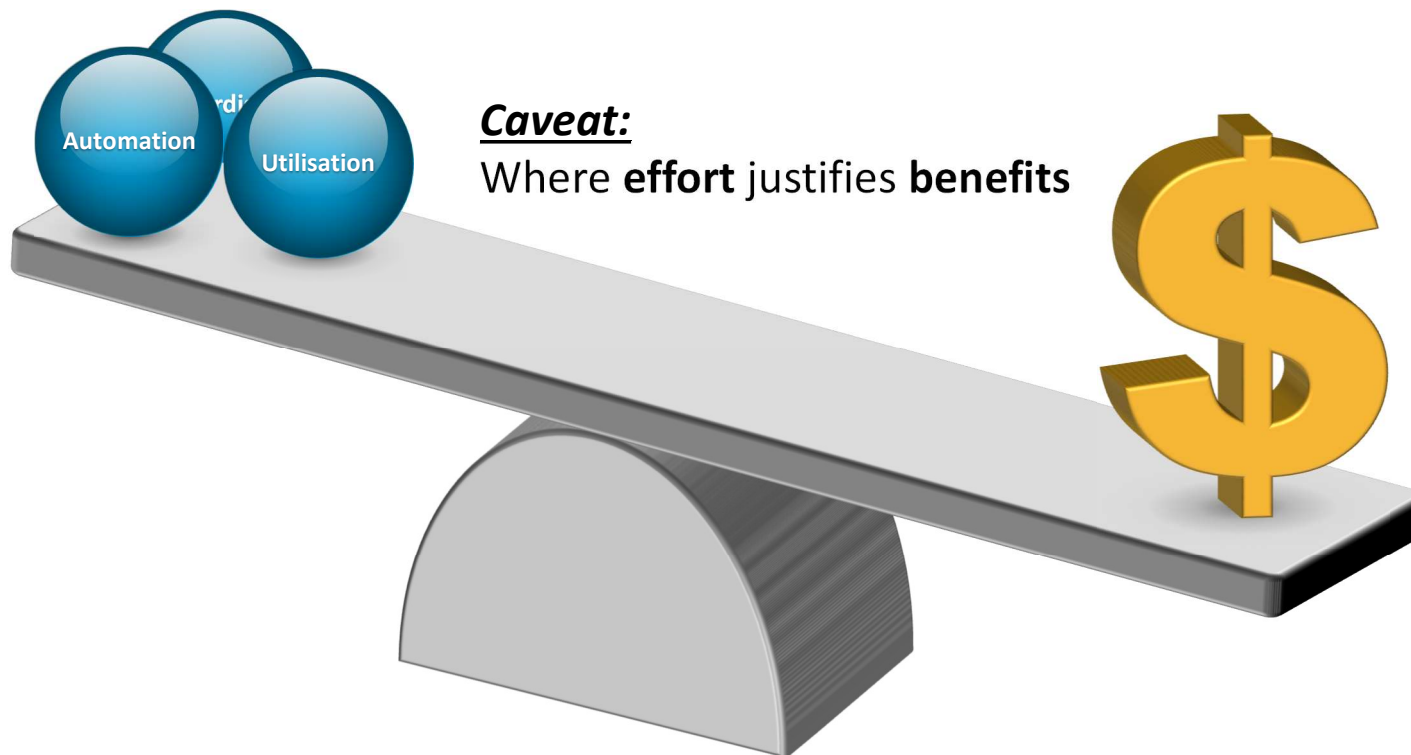


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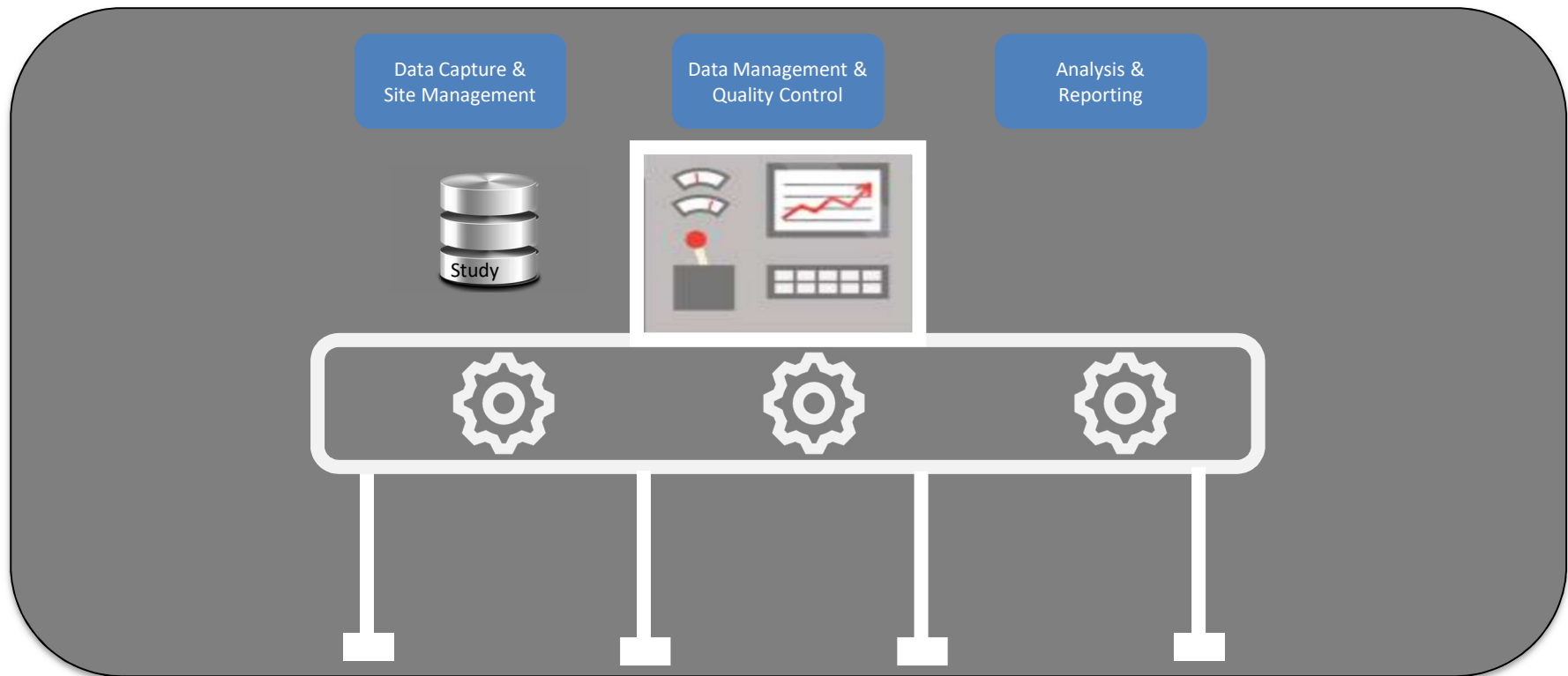
What is Data Engineering?



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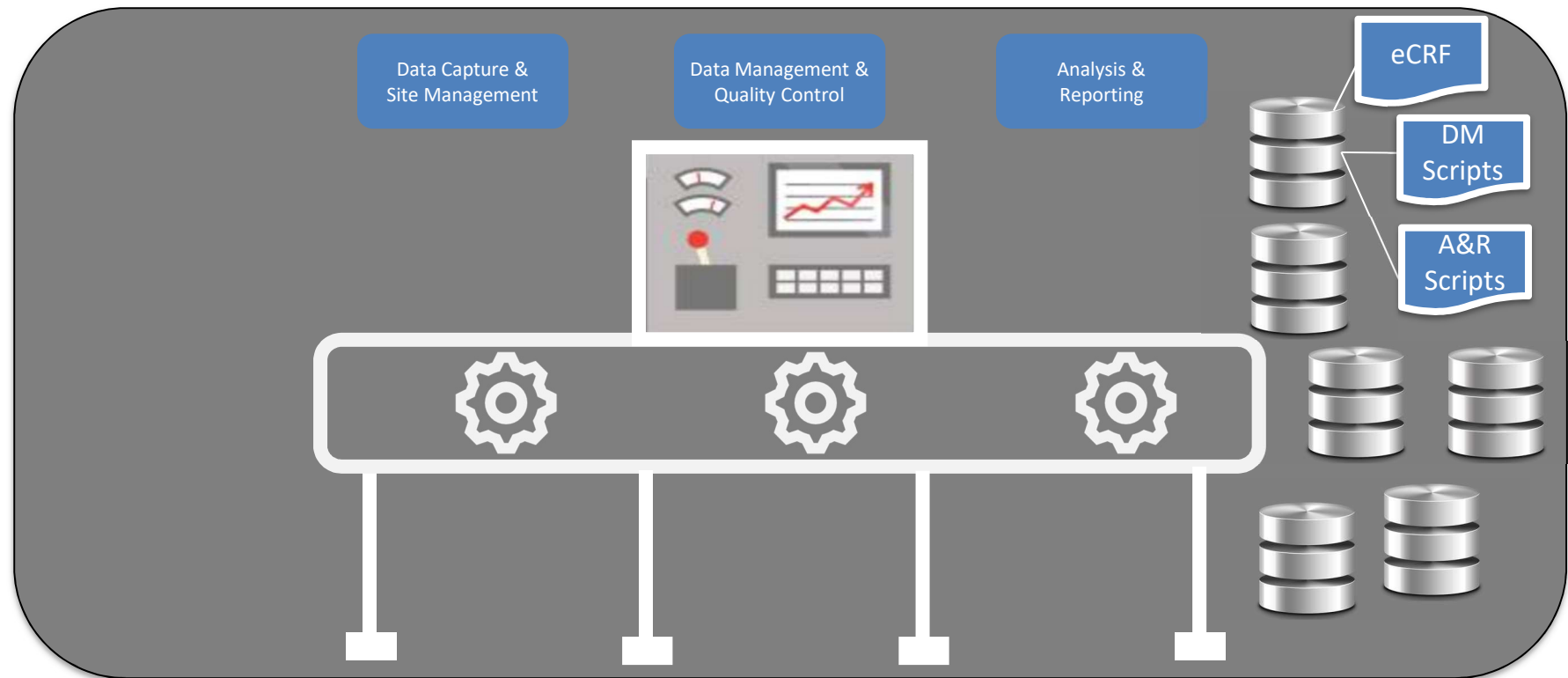


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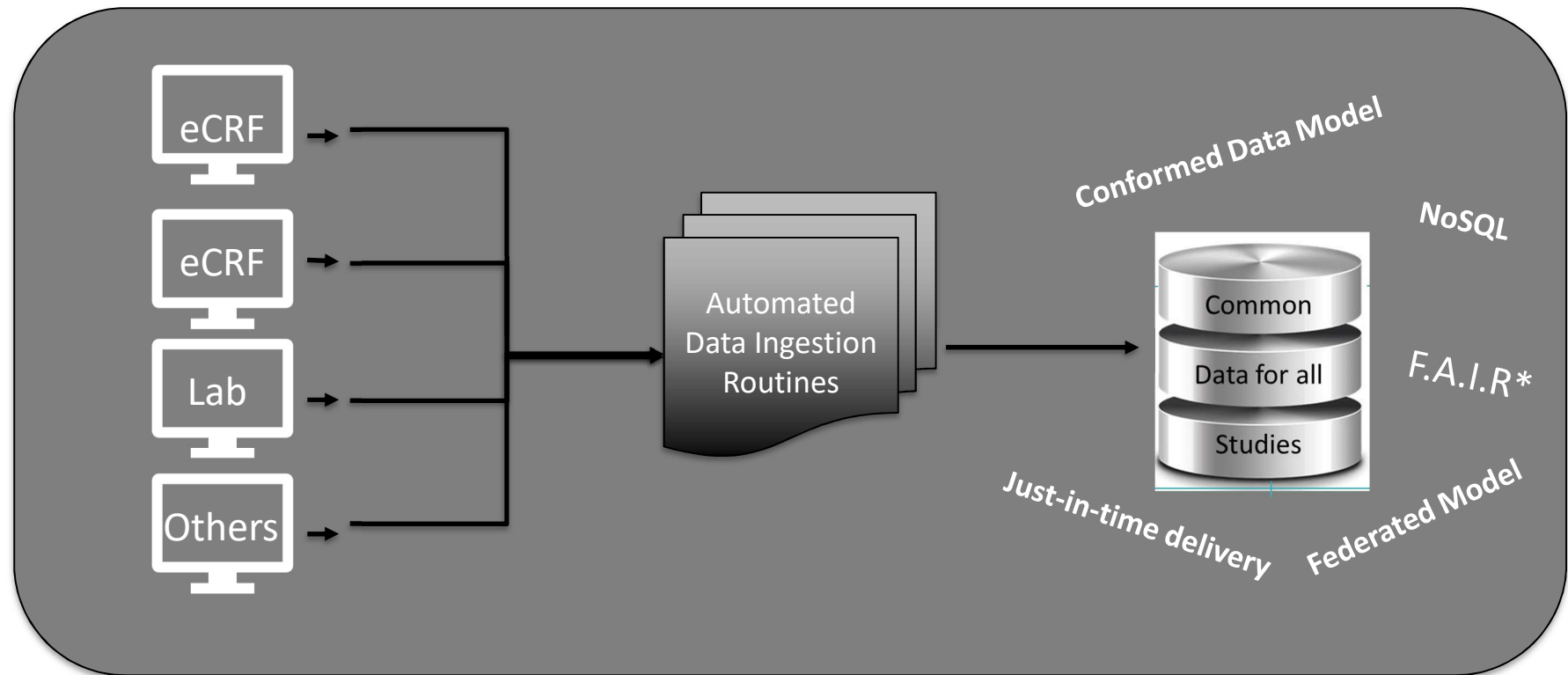


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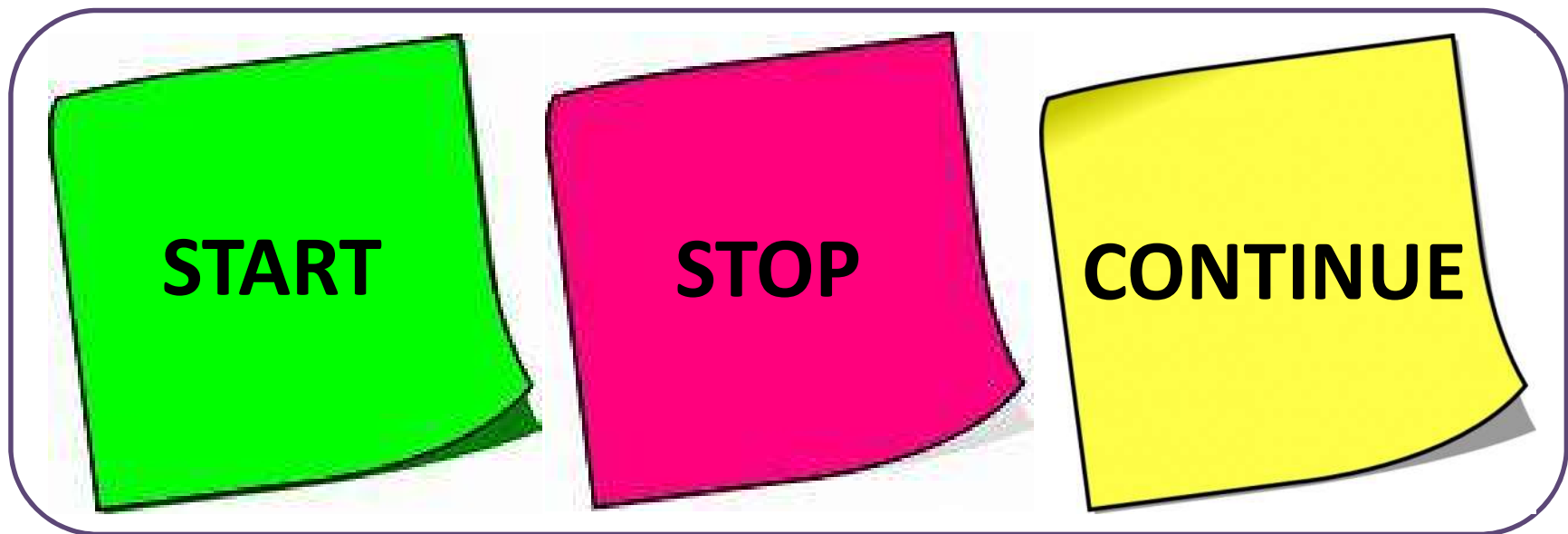


What is Data Engineering?



* F.A.I.R. = Findability, Accessibility, Interoperability, Reusability

What is Data Engineering?



To optimise **Data Engineering** in our industry,
what should we START, STOP or CONTINUE doing?

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Data Engineering Project Overview



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Data Engineering vs Data Science



Data Engineer Role

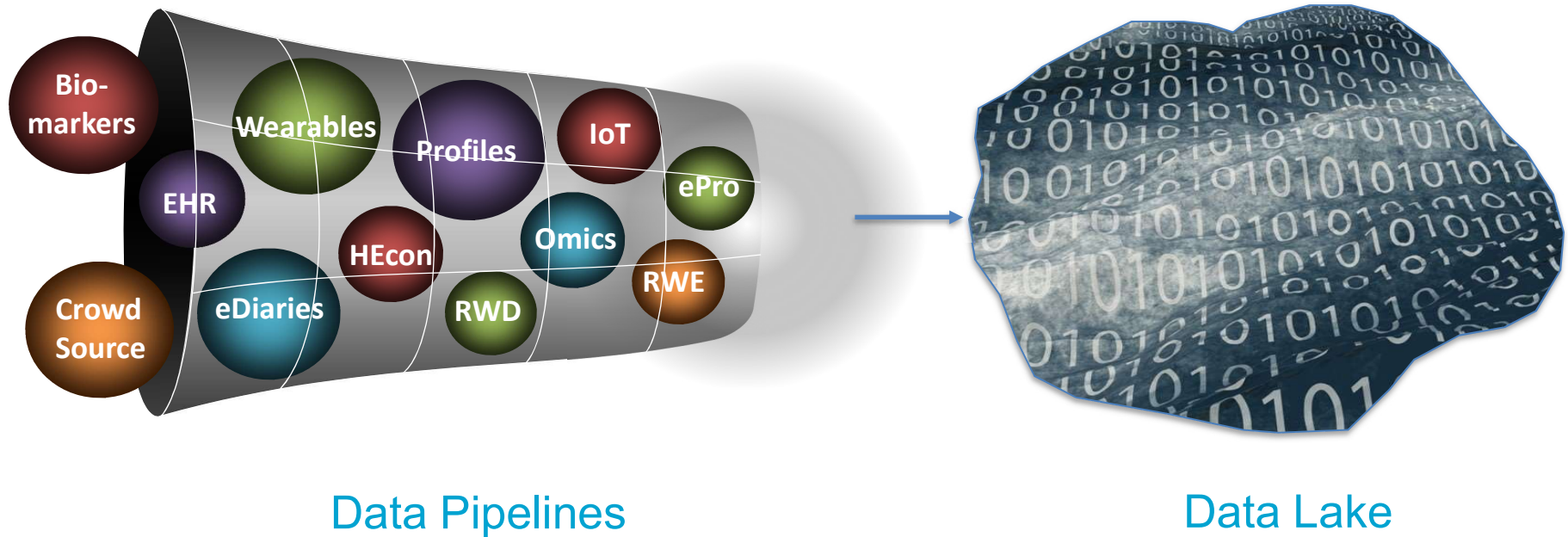
Identification
Automation
Curation



Data Scientist Role

Analysis
Predictions
Serendipity

Data Engineering vs Data Science

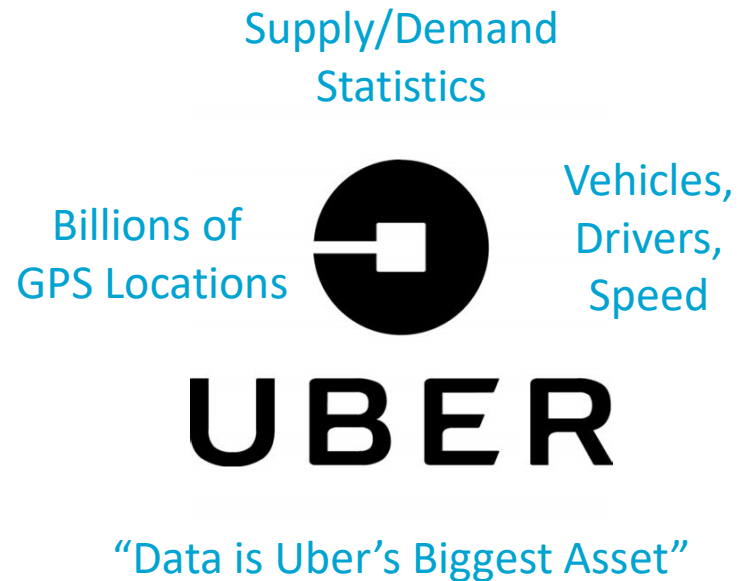


Data Engineering Project Overview

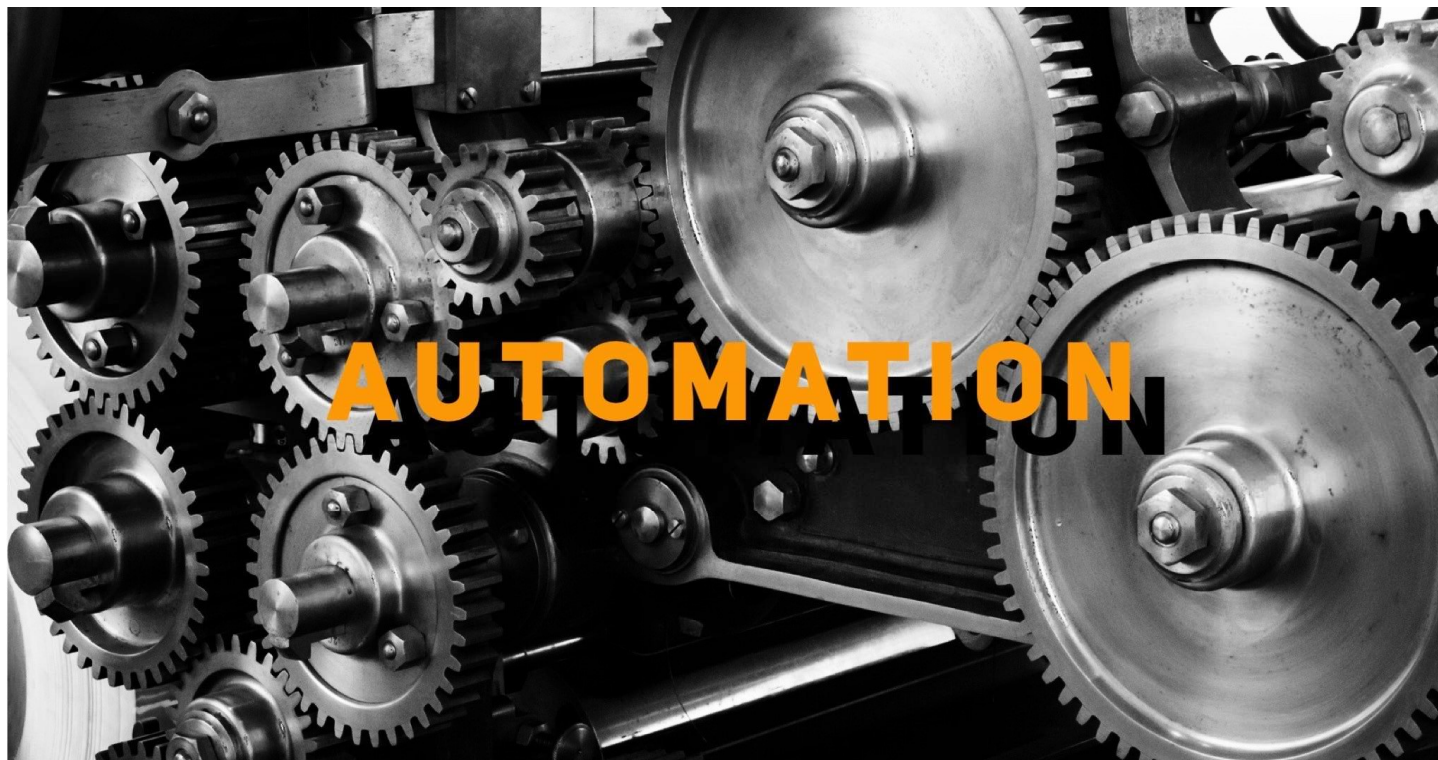


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Other Industry Use Cases



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Developing an Automation Strategy



Why Automate?

What Should Be Automated?

How Might Automation Impact our Business?

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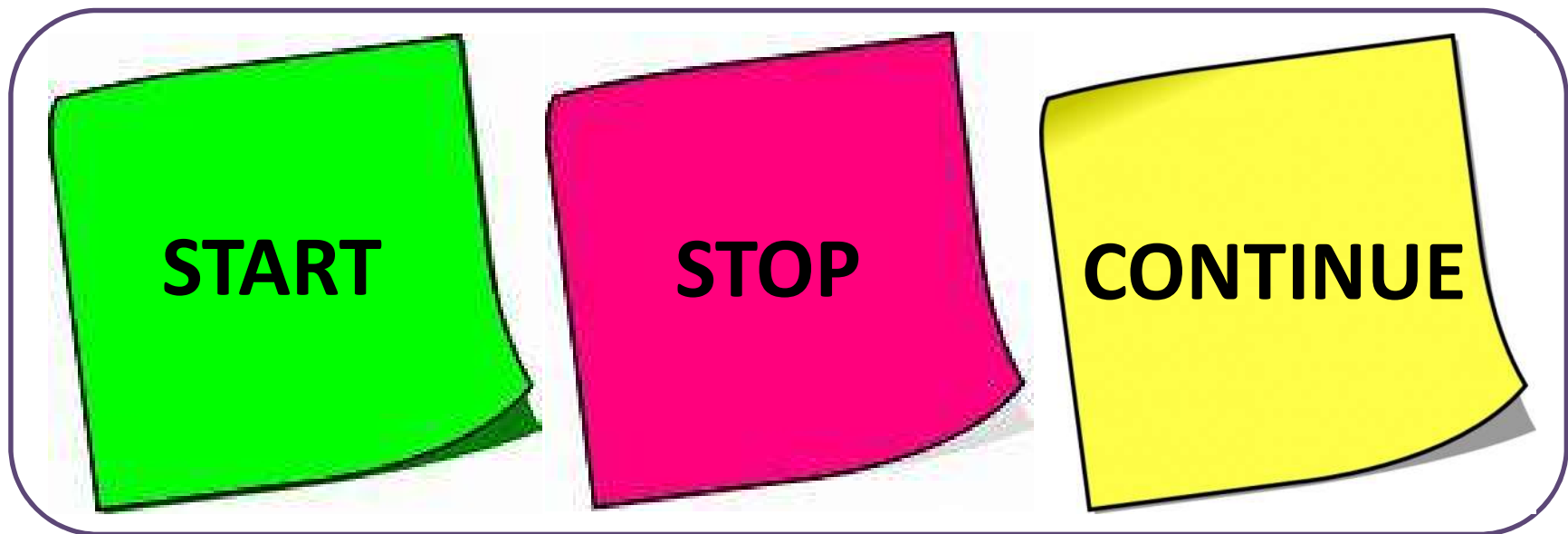
Developing an Automation Strategy

Consider...

- Manual tasks, repetitive or standardized
- Enabling users to be better at their jobs
- Impact to the organization
 - embracing change
 - value creation



Automation



With regards to **Automation** in our industry,
what should we START, STOP or CONTINUE doing?

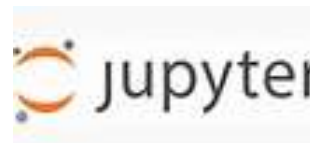
A selection of Automation Software...



Apache Arrow™



SQL/NoSQL



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Culture



Patient Safety
Patient Privacy
Effective treatments
High Integrity



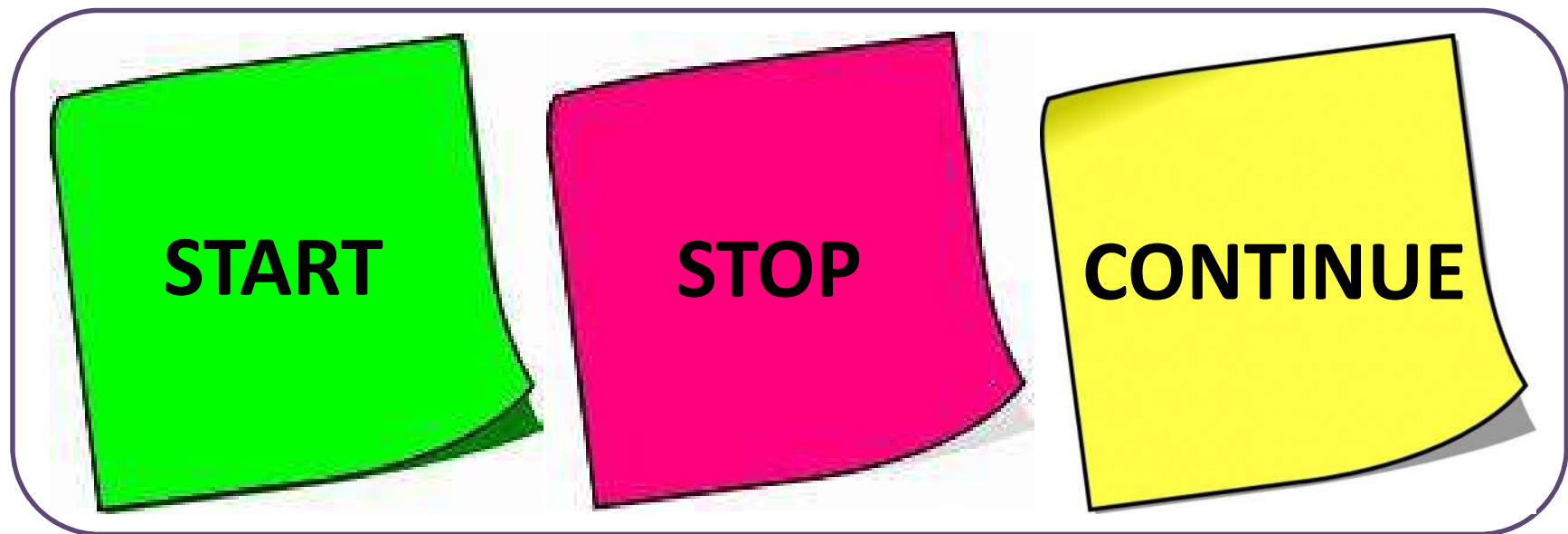
Internal drug development
Licensing & Acquisitions
Distributed data utilization
via Data Engineering



Investment
Legacy Systems
Reduce costs
Shorten Timelines

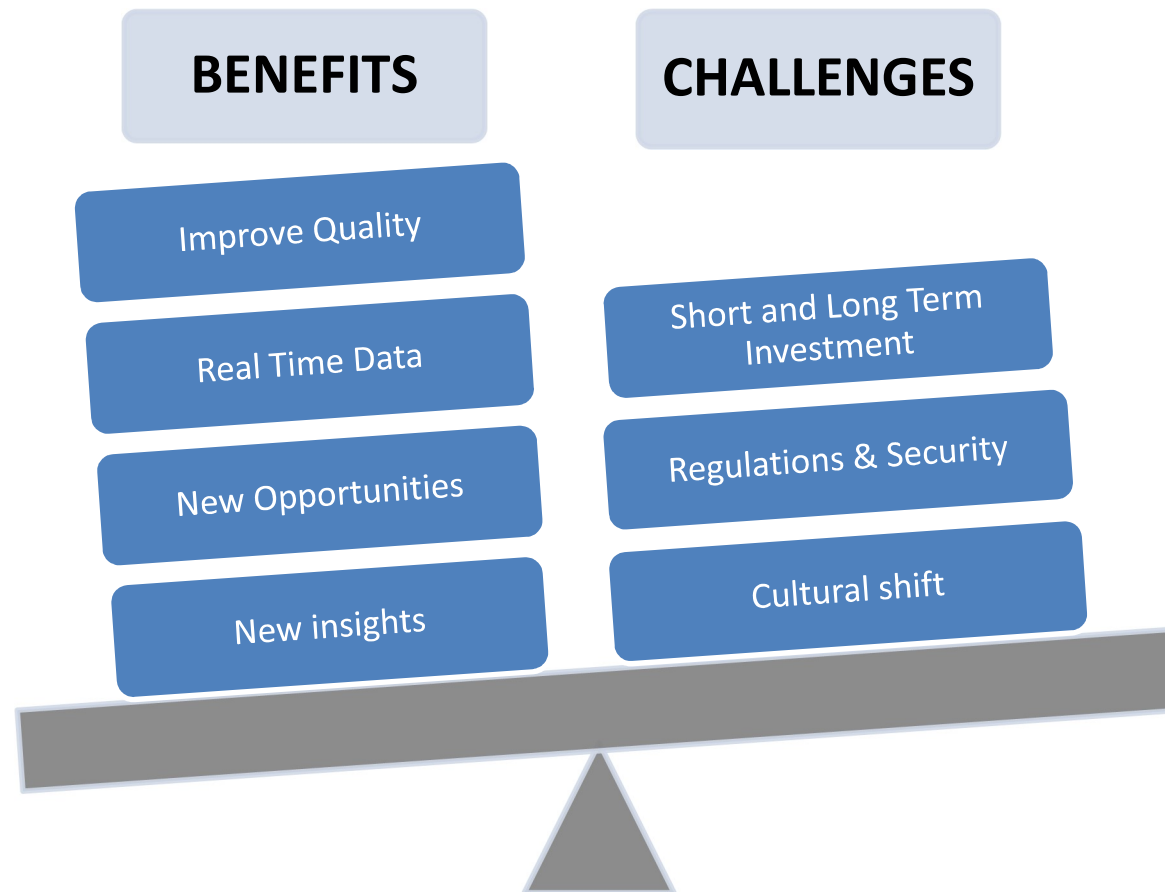


Culture



With regards to **Culture** in our industry,
what should we START, STOP or CONTINUE, doing?

Benefits & Challenges



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Industry Standards



Clinical Data Interchange Standards Consortium



- Sets a core framework
- Advantage to the Pharmaceutical industry
- Data types becoming more diverse

Data Engineering Project Overview



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Education Methods

- Videos
- Textbooks or articles on selected topics
- Blogs
- Podcasts
- Social Media Channels
- Interactive Components
- Professional trainings
- Pages of/Links to other websites



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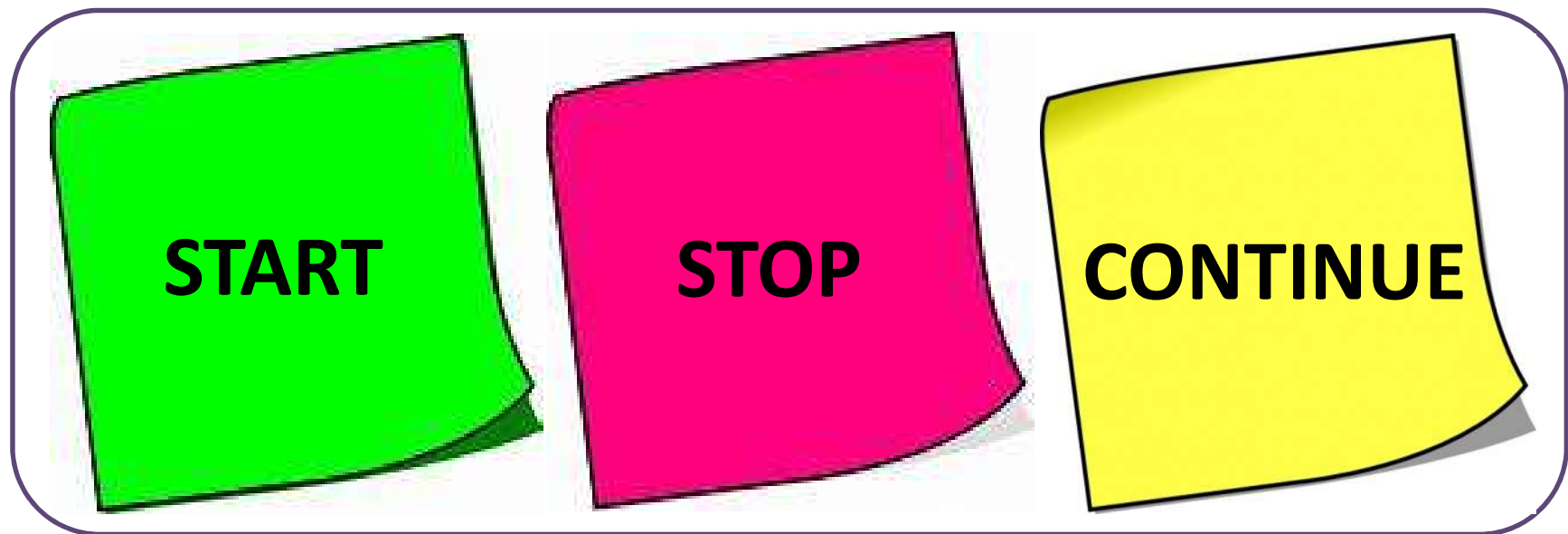
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Data Engineering Project



With regards to the **PhUSE Data Engineering Project**,
what should we **START**, **STOP** or **CONTINUE** doing?

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The C/ake Server

Data Engineering Project

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