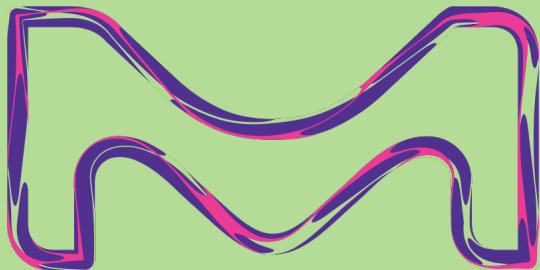


A data scientist's journey: a personal account of what we have learnt

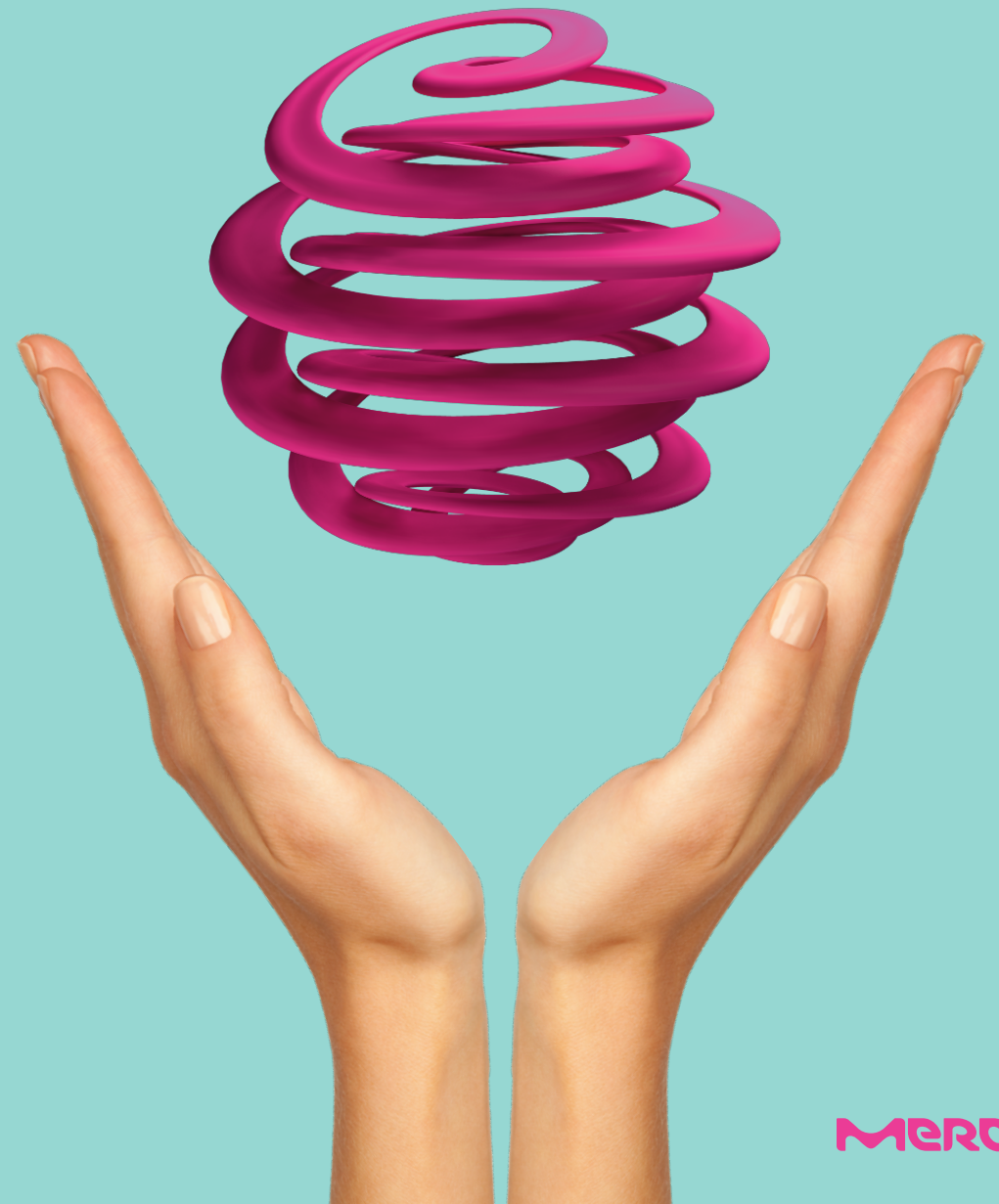
Stuti Agrawal and Eleonora Lippolis

High-Tech Women in Science and Technology
From Cybersecurity to Artificial Intelligence | 04.03.20



MERCK

We are a
vibrant
science and technology
company



MERCK

**Our portfolio addresses
therapeutic areas such as:**



**Oncology &
Immuno-Oncology**



**General Medicine
& Endocrinology**



**Neurology &
Immunology**



Fertility



Patients
are the center of our
work

We offer solutions in fields
such as:



**Genome
Editing**



**Food and
Beverage**



Biologics

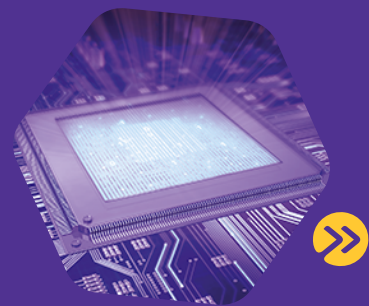


We help scientists to
solve problems
at every stage of their work

Creating a
vibrant world

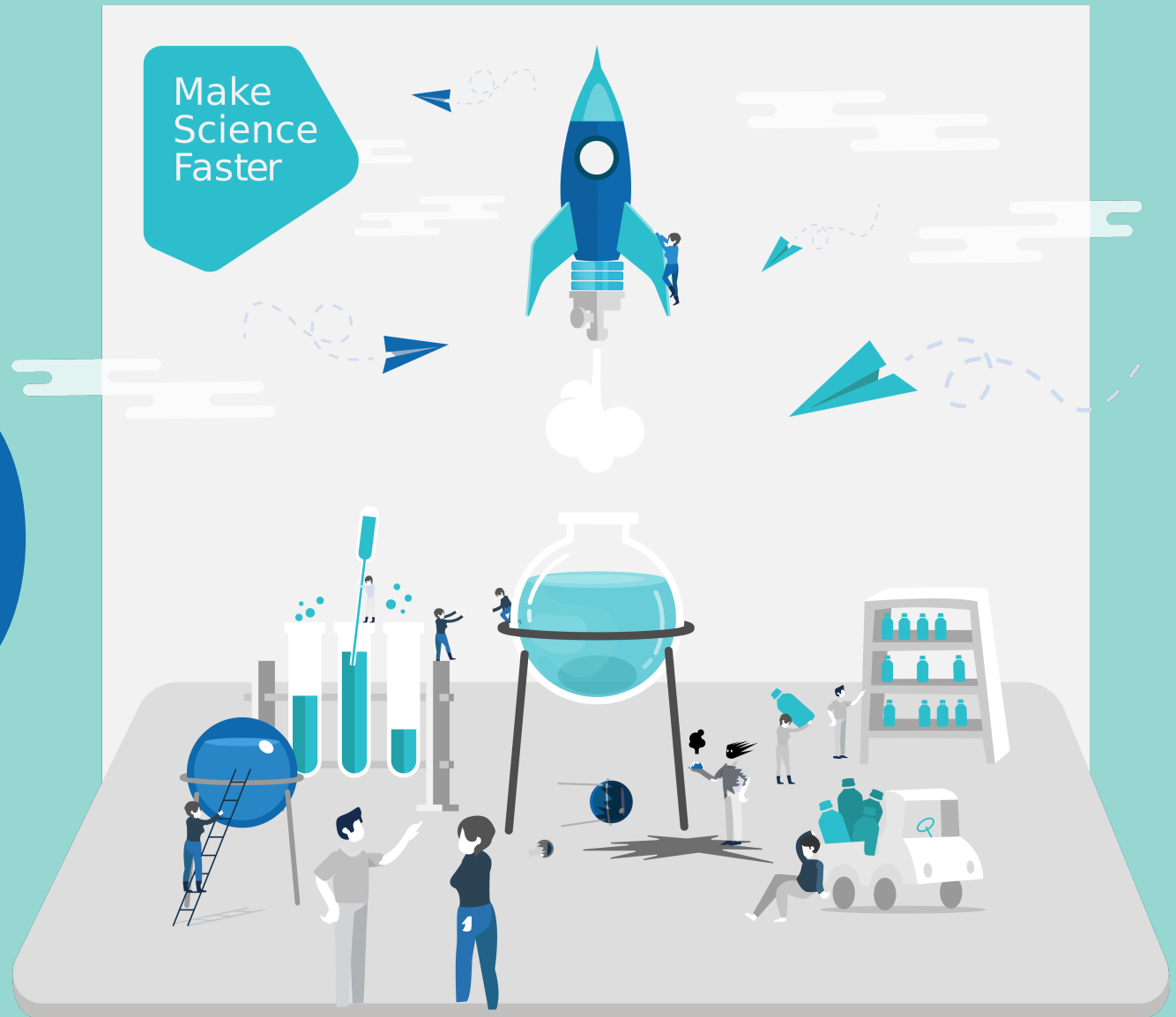


**Future
Mobility**

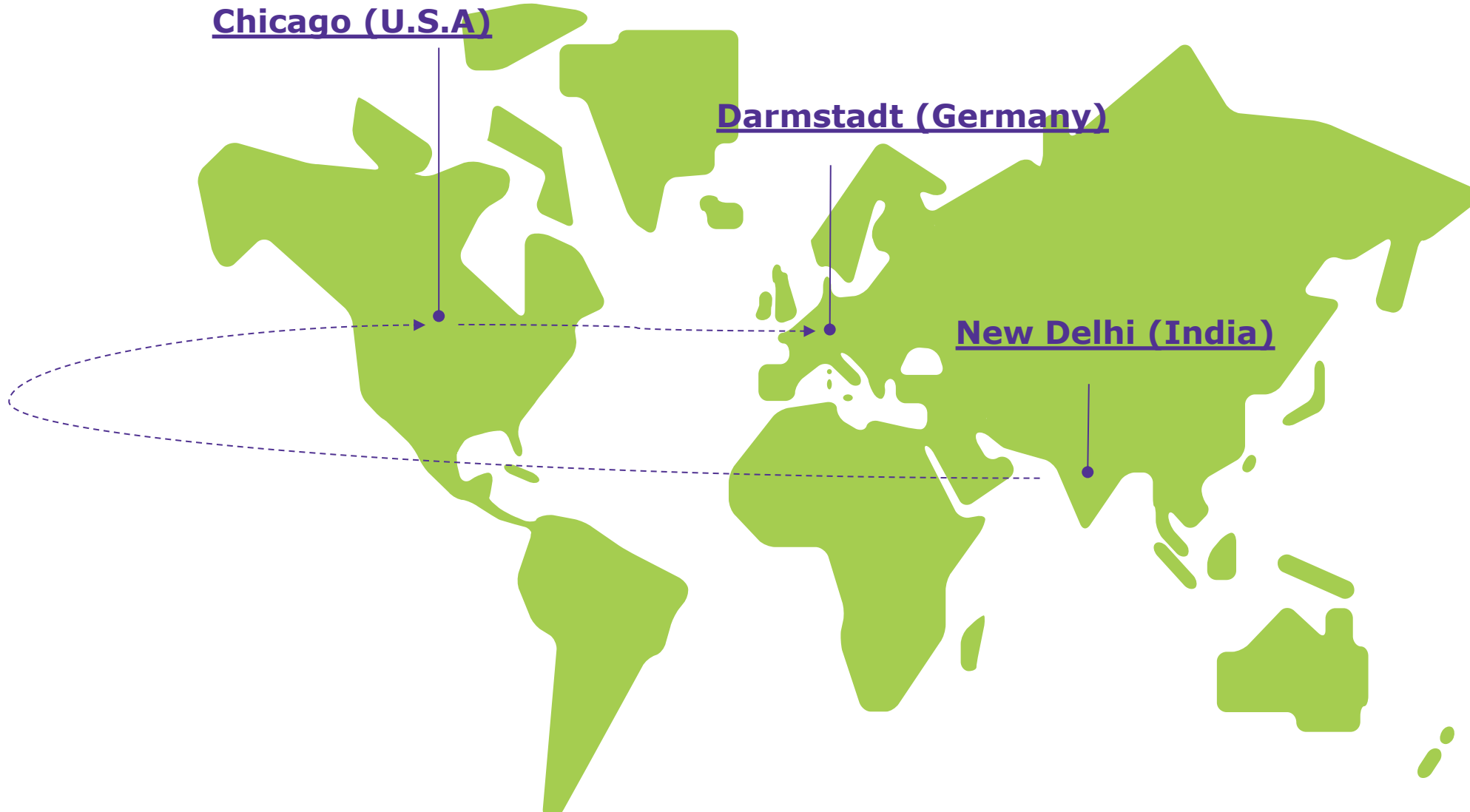


**Smart
Technologies**

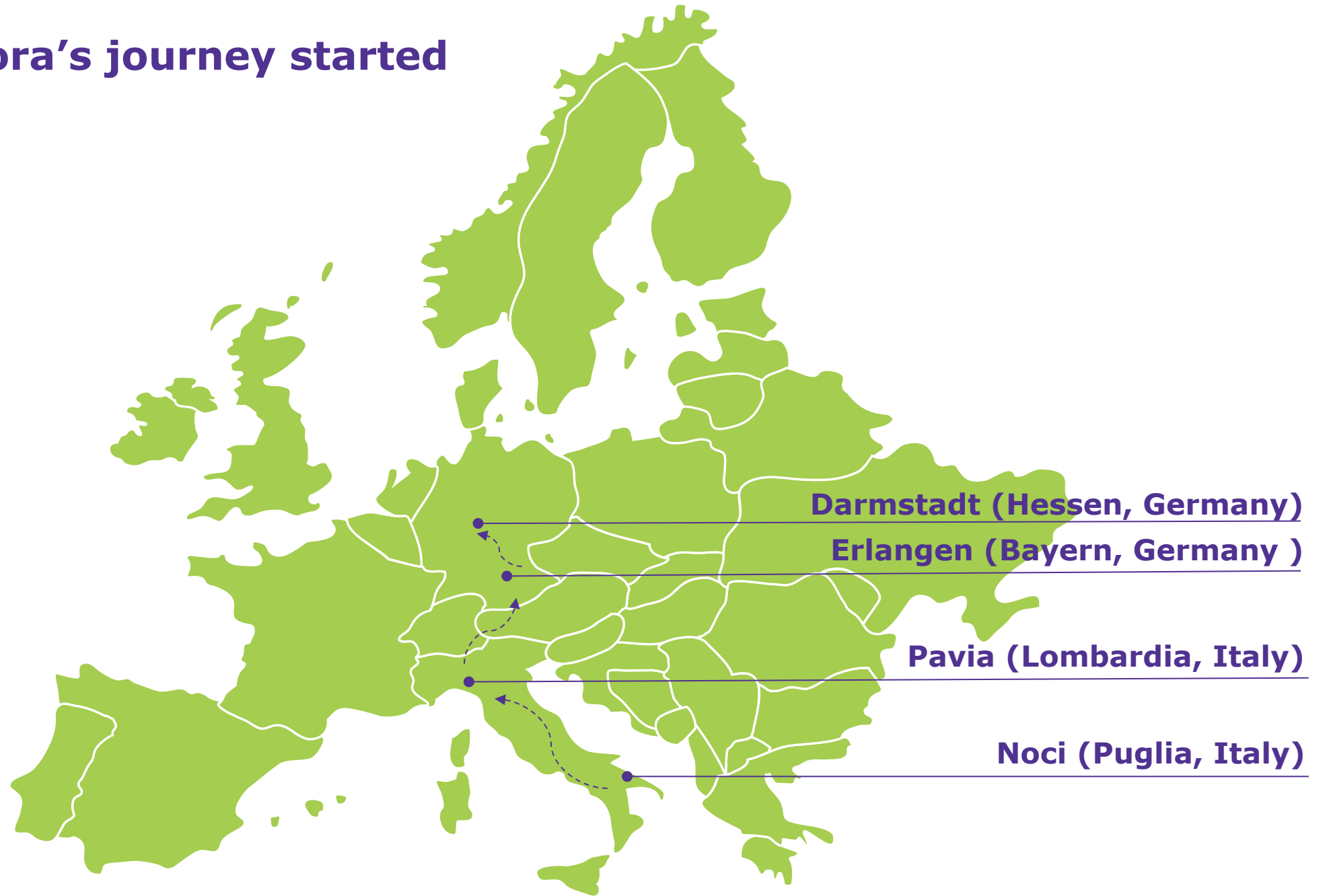
Merck Digital



How Stuti's journey started



How Eleonora's journey started



A data scientist's journey: a personal account of what we have learnt

What we thought | What we found

What we thought

- Clean data
- Enough data
- Easily available data
- Balanced data



What we learnt

- Lot of data **cleaning** to be performed
- There is **never enough** data
- Enterprise system and multiple locations
- Unbalanced data

A data scientist's journey: a personal account of what we have learnt

What we thought | What we found

What we thought

- Only need of data and technical skills



Understanding business problem

What we learnt

- Understanding the context is very important
- Need of **immersion** in the business

A data scientist's journey: a personal account of what we have learnt

What we thought | What we found

What we thought

- All data already ingested and ready to be used



Compute infrastructure

What we learnt

- No Linux based computer
- **No data ingestion**
- **AWS** machines
- Fragmented infrastructure

A data scientist's journey: a personal account of what we have learnt

What we thought | What we found

What we thought

- Everyone wants data science and has a clear idea of how they want to implement it in their business.



What we learnt

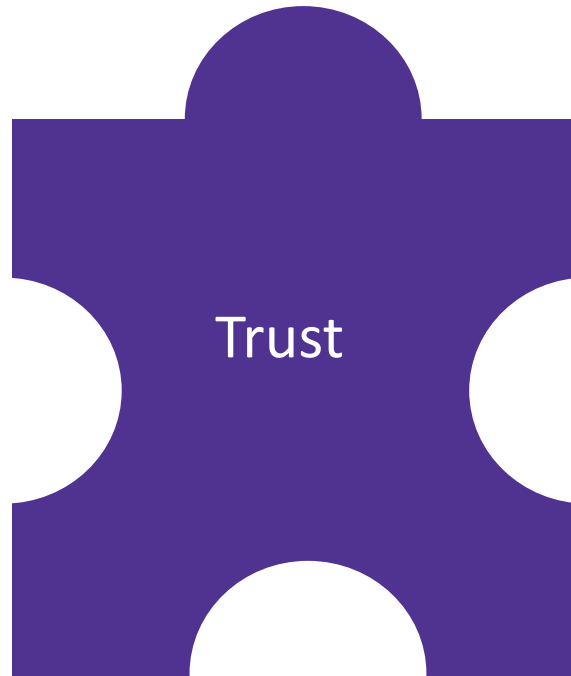
- People are either sold **TOO MUCH** or **NOT AT ALL** to data driven ideas. In both cases, the "HOW?" is not answered.

A data scientist's journey: a personal account of what we have learnt

What we thought | What we found

What we thought

- Never occurred



What we learnt

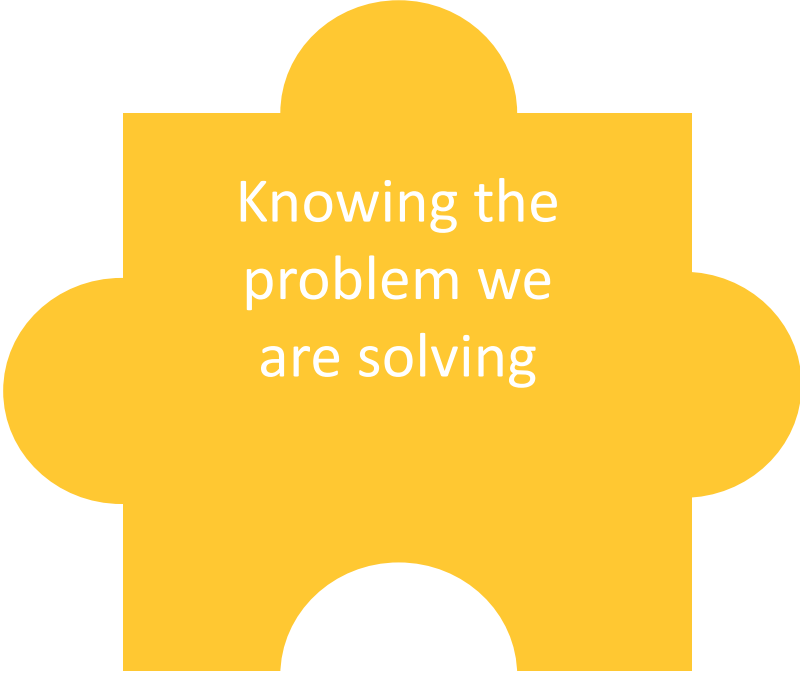
- Need to build trust as **experts**

A data scientist's journey: a personal account of what we have learnt

What we thought | What we found

What we thought

- When we build a model, we know what we are trying to achieve



Knowing the
problem we
are solving

What we learnt

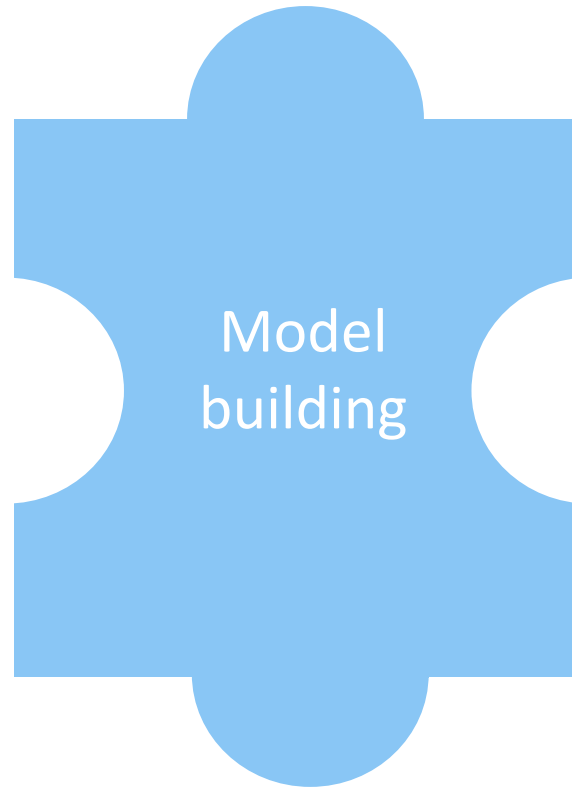
- People give you data and expect results without a clear goal
- Need **consulting** skills to ask the right questions

A data scientist's journey: a personal account of what we have learnt

What we thought | What we found

What we thought

- Build fancy Machine Learning models



What we learnt

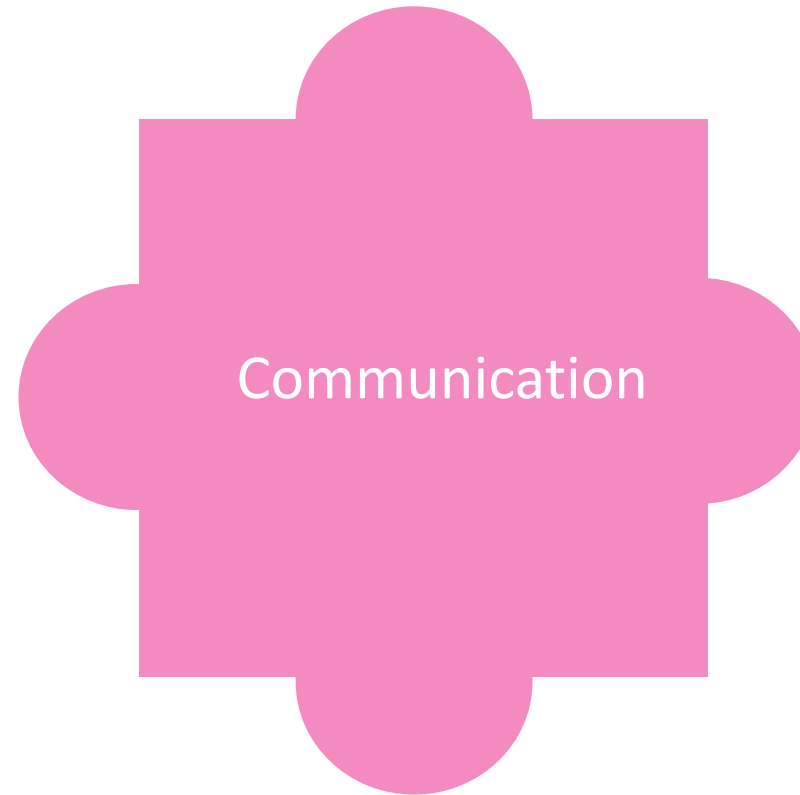
- Don't need the best model, but something better than what exists
- Start **simple**

A data scientist's journey: a personal account of what we have learnt

What we thought | What we found

What we thought

- Build model, get results and provide them



What we learnt

- **Critical thinking**
- Lot of interactions
- Different languages
- How the results matter in business context

Understanding
business
problem

Stakeholder
buy-in

Trust

Knowing
the
problem
we are
solving

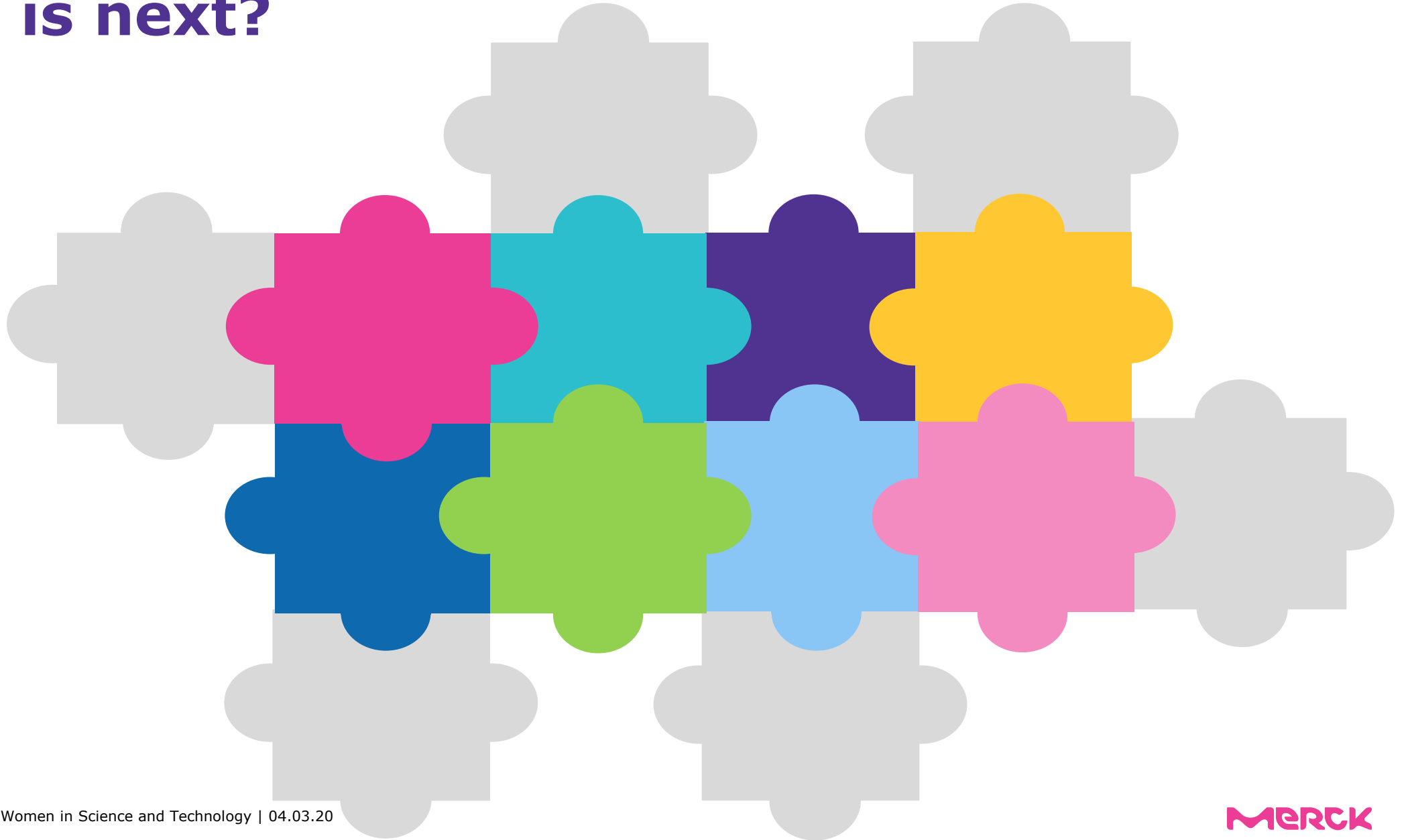
Data
collection

Compute
infrastructure

Model
building

Communication

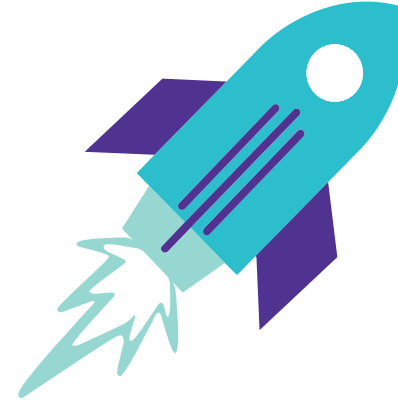
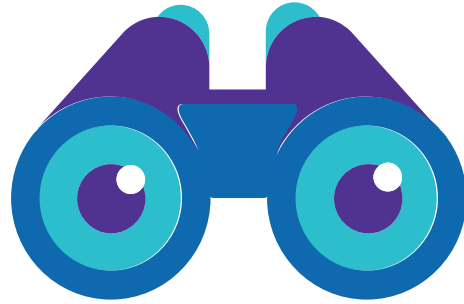
What is next?



A data scientist's journey: a personal account of what we have learnt

What we like

Unique/Ever Changing



Drive Important Decisions



Work with some really awesome people

A data scientist's journey: a personal account of what we have learnt

Take home message



Do not search for a clear path to become a data scientist:
there is none!



With every project you will
learn something new!

Thank you for your attention!

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Eleonora Lippolis

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