

Data Minimalism in AI applications

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For generations the Otto Group is committed to economical, social and ecological sustainability



A member of the otto group

For decades, we have been convinced that business is for people, not the other way around. This is captured in our shareholder vision. As the Otto Group, we stand for:

Responsible commerce that inspires

For the future of the Otto Group and future generations. Economically, socially and ecologically sustainable action is our focus!

Photo: Benjamin Otto and Prof. Dr. Michael Otto (left to right)

OSP – the IT Service Provider of the Otto Group

Facts and Figures



otto group

Strong Background

Since
[1991]

IT for Retail & Logistics

350 

About 350 Experts

5 

Locations worldwide



Software Development



IT Consulting



Business Intelligence



Software Products

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Data Minimalism has ecological, economical, and societal benefits



Reduces carbon emissions: Data traffic causes about as much emissions as air traffic.



Supports scalability

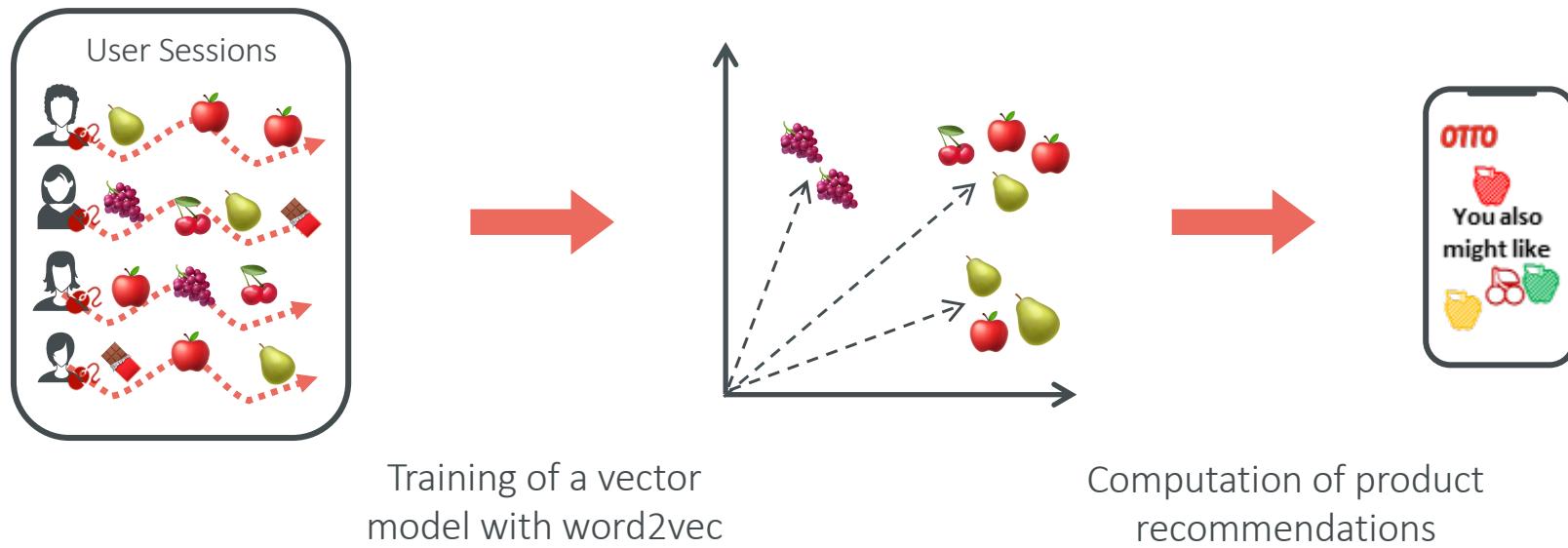
Reduces monetary costs



Increases security & trust: Avoidable data storage and transfer causes unnecessary security risks.

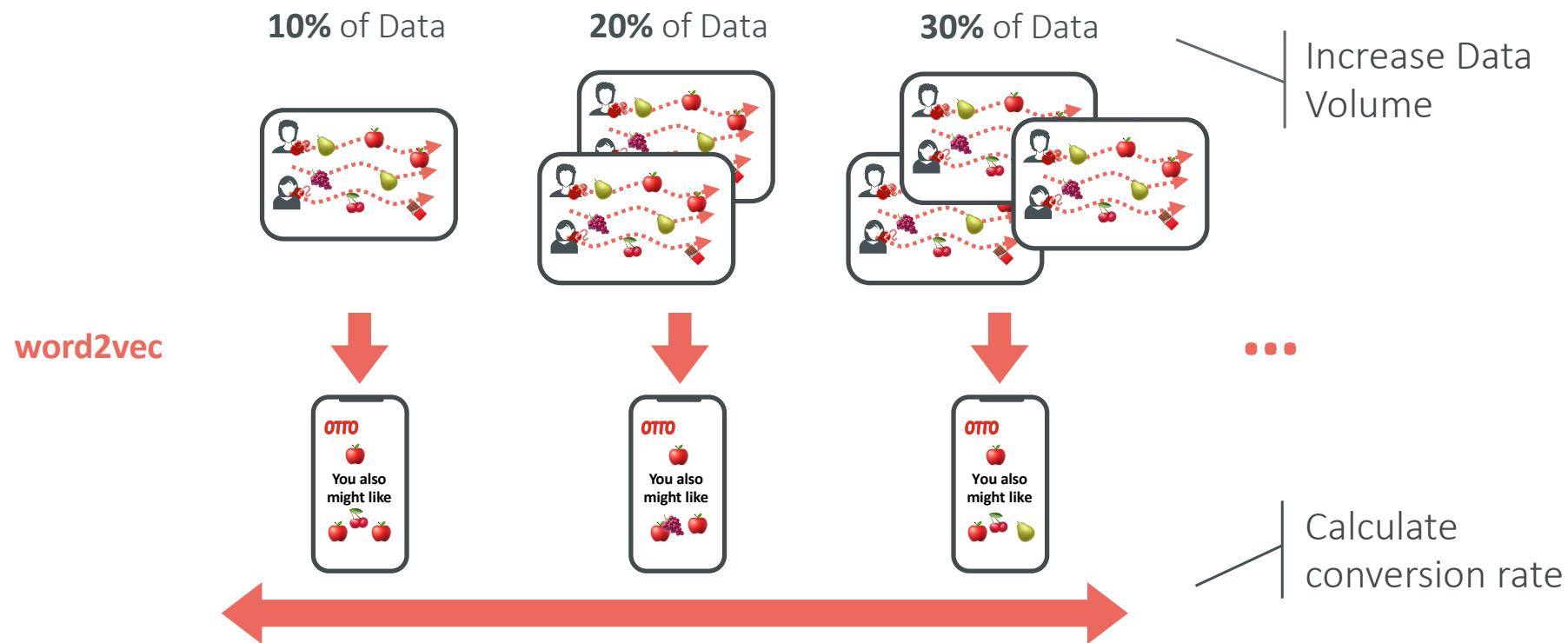


Example AI Application: Recommender System

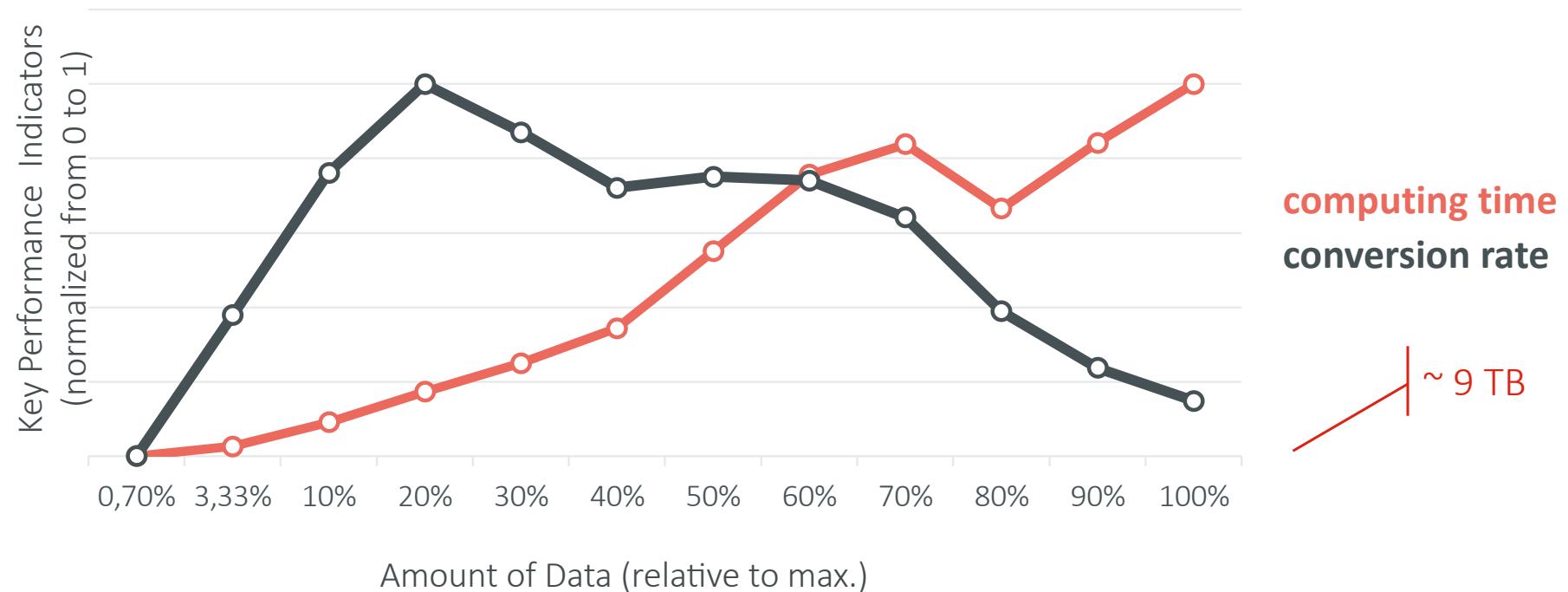


Performance measure: Conversion rate (% of customers who bought a recommendation)

How much Data do we need for good AI decisions?



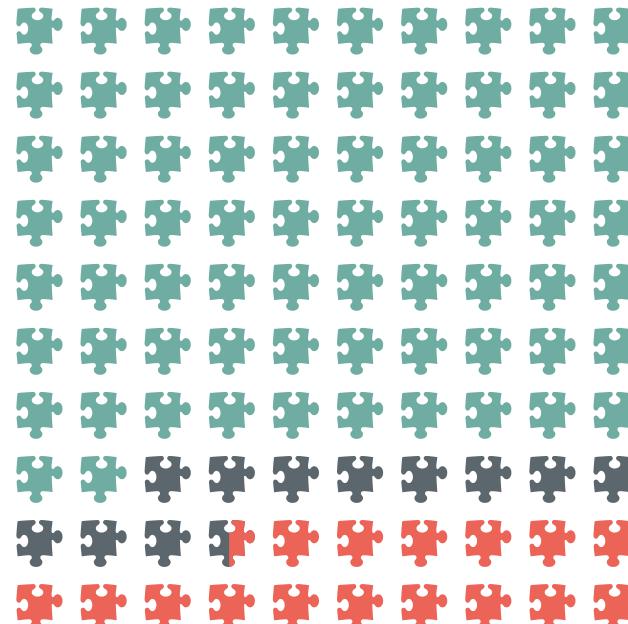
Computing time is decreased by 80% while the performance is improved



Which data do we need for good AI decisions?

71 %

of the data points have a positive value



16.5 %

of the data points have a negative value („toxic data“)

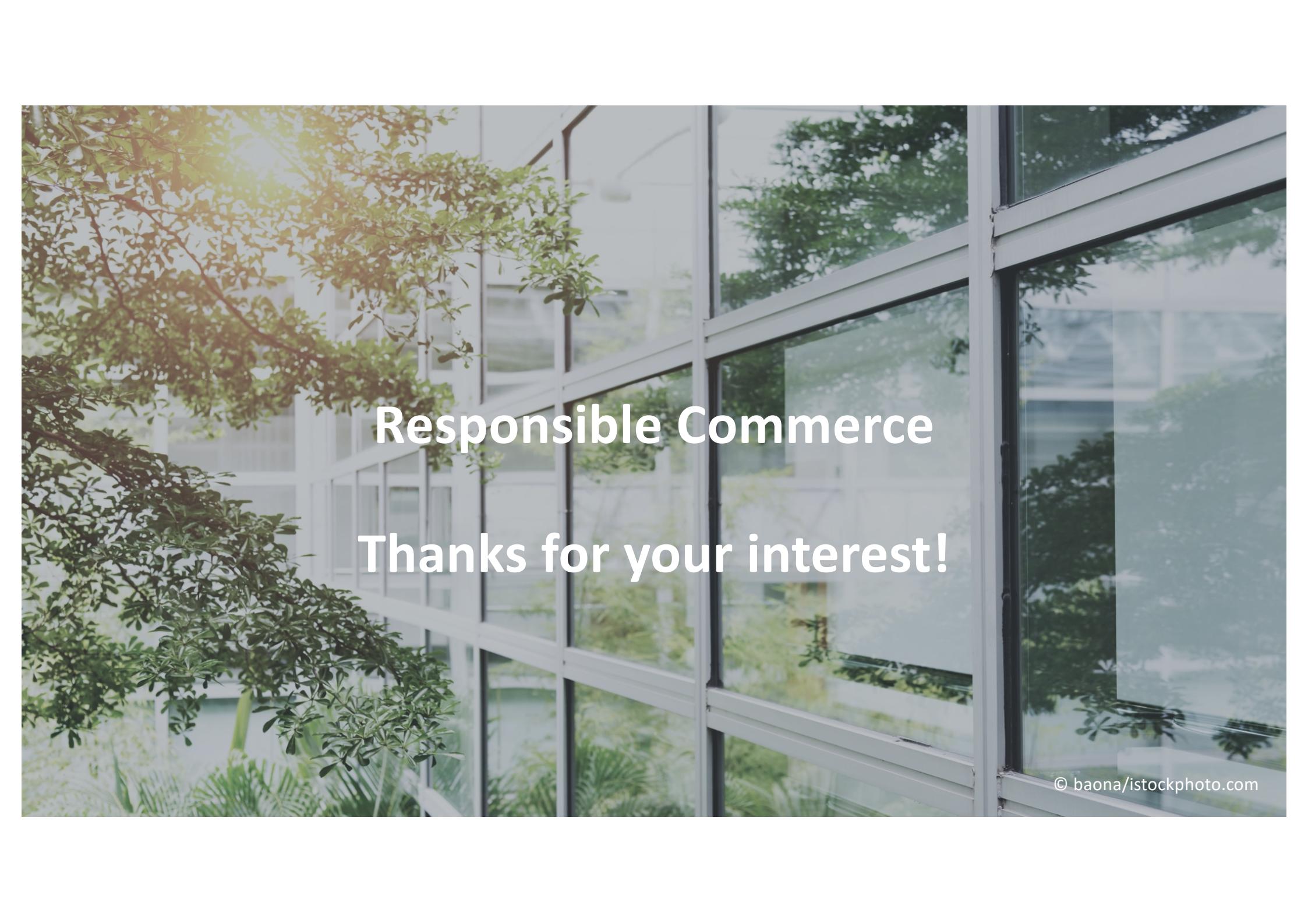
12.5 %

of the data points do (virtually) not change the system

Summary & Outlook



- Data Minimalism has many ecological, economical, and societal benefits
- Data minimalism can significantly decrease the computing time of large-scale AI applications while even improving the performance
 - Our example application performs best using only 20% of the data
 - Measuring and predicting the value of individual data points will allow to further reduce the amount of data and to improve the performance of AI applications
- At OSP, as part of the Otto Group, we will continue to promote responsibility and sustainability in IT and AI



Responsible Commerce

Thanks for your interest!

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