

Dorothee Appel · CIO Personal & Business Banking and Functions ABN AMRO

Sustainability in IT – Beyond the Buzzwords

Hasso Plattner Institute · Potsdam

31. March 2022





In the Netherlands, more than **one in five people bank with us.**

We provide loans, mortgages and other banking services to our clients, helping drive economic growth while accelerating the **shift to a sustainable economy.**

Banking for better,
for generations to come

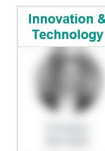
Organisation

I&T consists of 10 organisational units and four strategic themes with >10k Fte's (int & ext)

As **CIO Personal & Business Banking and Functions**
ABN AMRO I manage ~3k Fte's

ABN AMRO I&T consists of 10 organisational units and four strategic themes

01. Introduction | I&T's organisation (1/2)



Key figures I&T (October 2021)

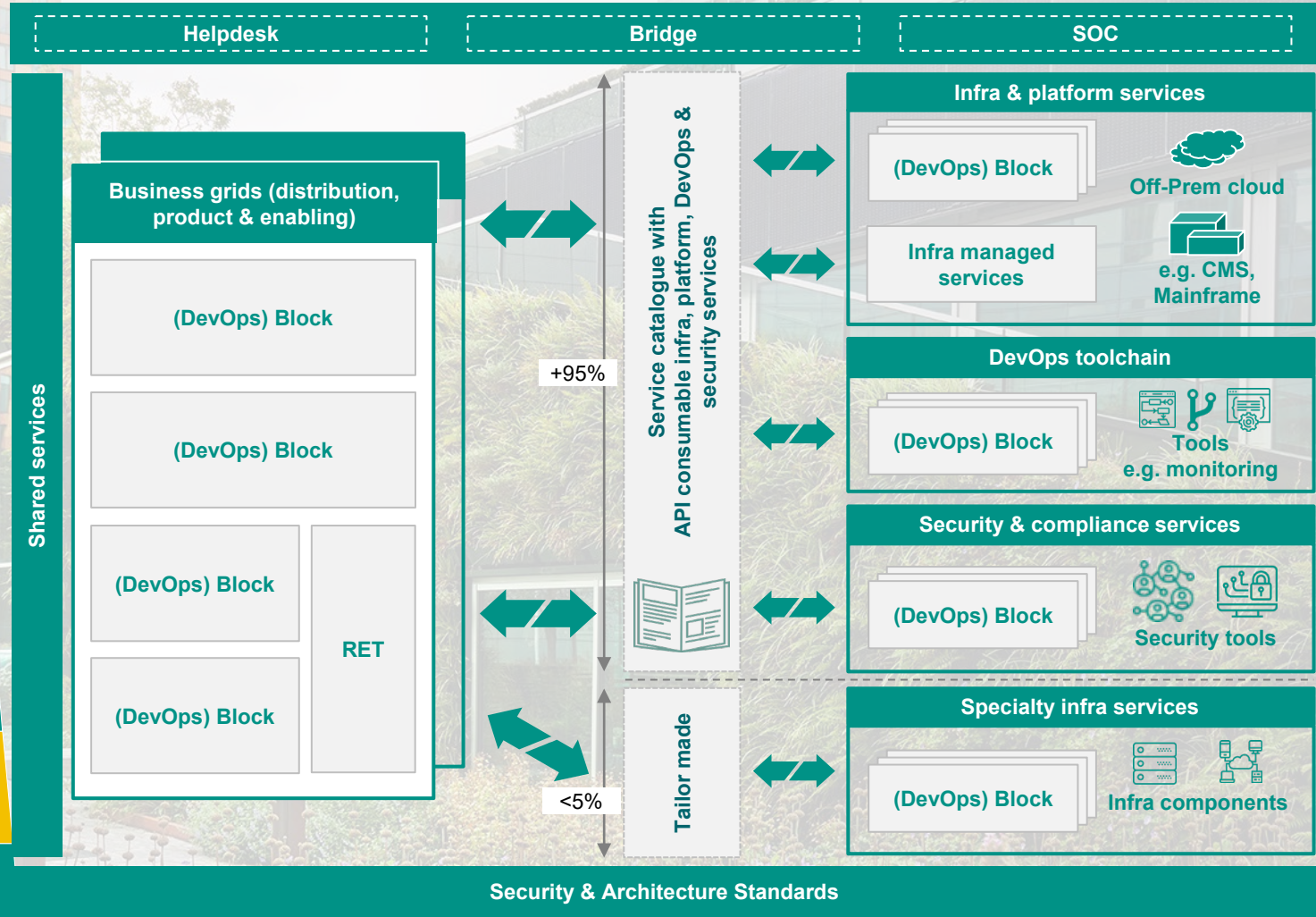
Fte's
10,682

- 3,320 internal
- 7,362 external

Platform & Technology	IT Wealth mngt. & CB	IT P, BB & Functions	Data Mngt. & Architecture	Information Security	Procurement	Cust. Care & Ops.	DFC	Change Mngt. & Consulting	Execution Office	IT Transf. (theme)	Products & Process (theme)
		Dorothee Appel									

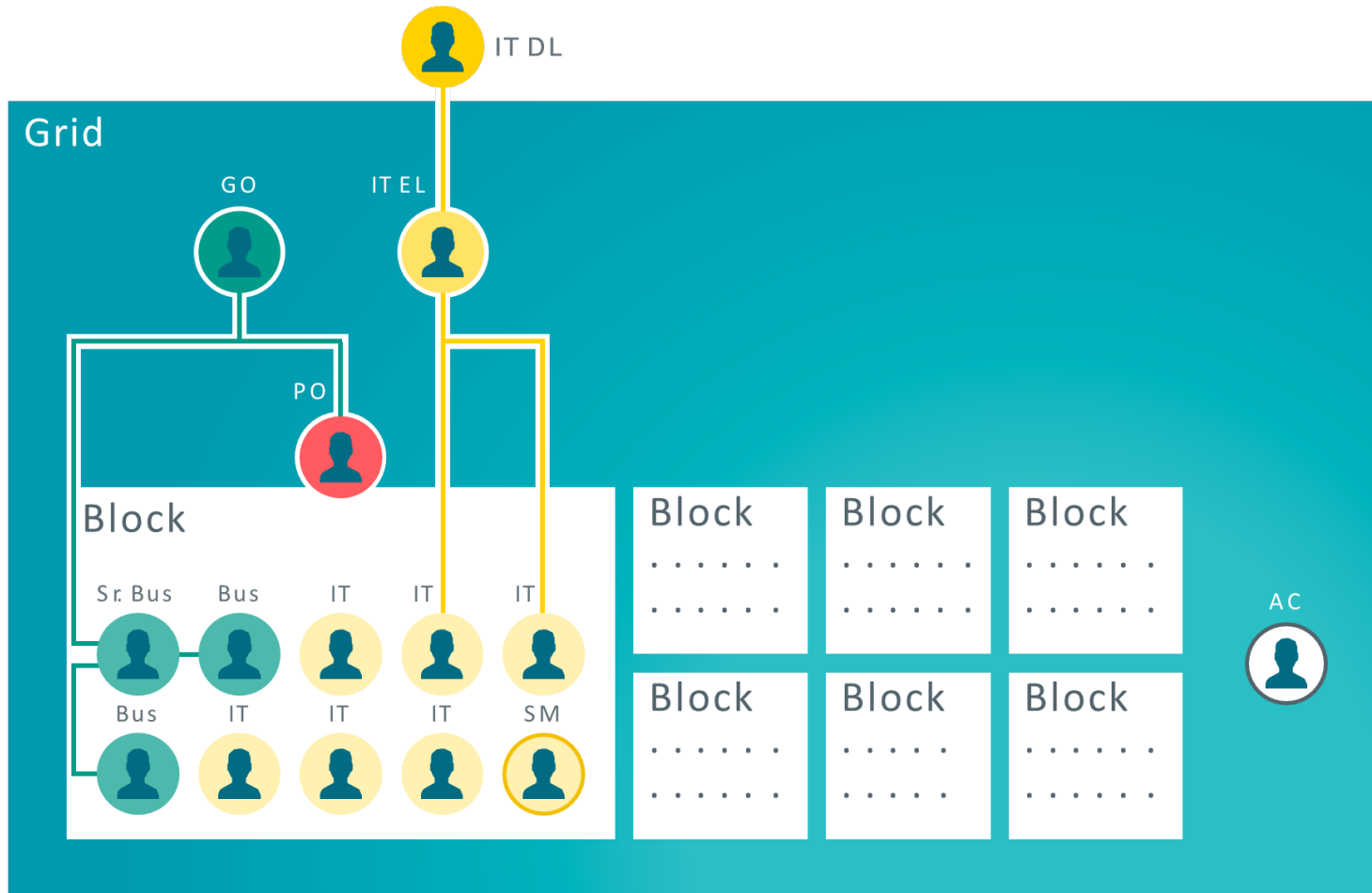




Control Tower








Banking for better,
for generations to come

The Blocks work together with the business lines in Business Grids. The Business is responsible for the What and IT is responsible for the How



- GO  Grid Owner (business)
- Bus  Generic Bus. Functions (business)

- IT DL  IT Delivery Lead (IT)
- IT EL  IT Engineering Lead (IT)
- IT  Generic IT Functions (IT) *Roles that are hierarchically part of CIOs*

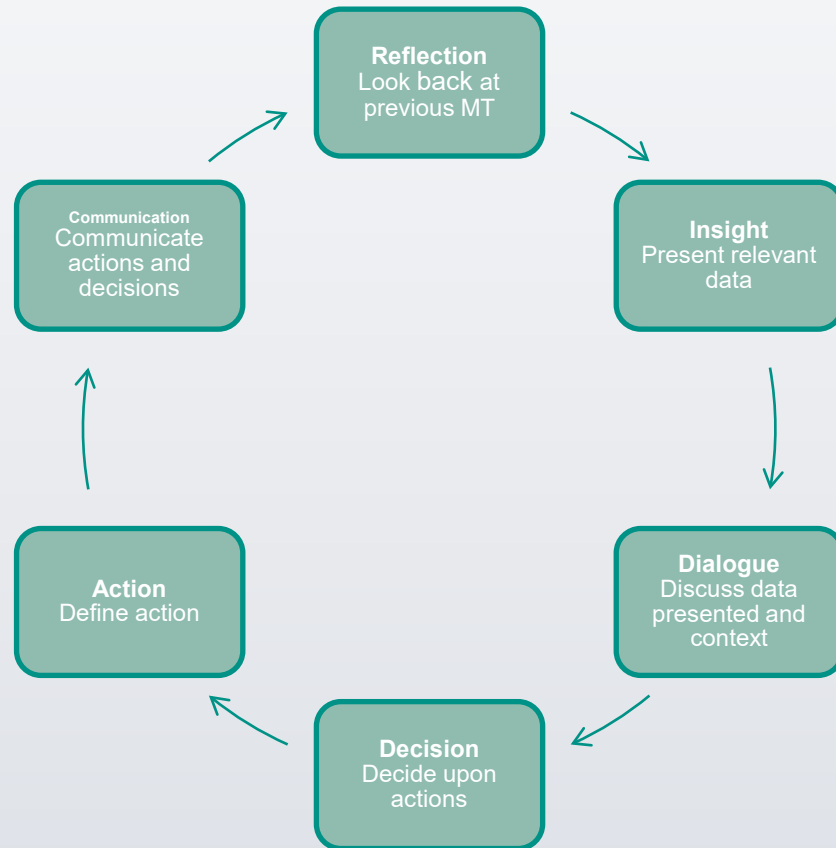
- PO  Product Owner (business)
- AC  Agile Coach (IT)

- SM  Scrum Master (IT) *Role that is hierarchically part of CIOs*

Operational Management Control: Run and Change (Control Tower)



Control Tower Cycle



Tower cycle takes per month

Description

Objective

The Tower has a guardian role and monitors, reports, coordinates and escalates if needed. The Tower ensure adherence to Change, Security, Run and Architecture standards.



KPI's

- Run, for example:
 - Availability
 - Number of SLA's with unavailability
 - Out of Time (OOT) Incidents
- Change, for example:
 - Deployments that failed
- Architecture, for example:
 - Architecture deviations



Participants

- MT's facilitated by Tower Manager
- Reports are available on team level

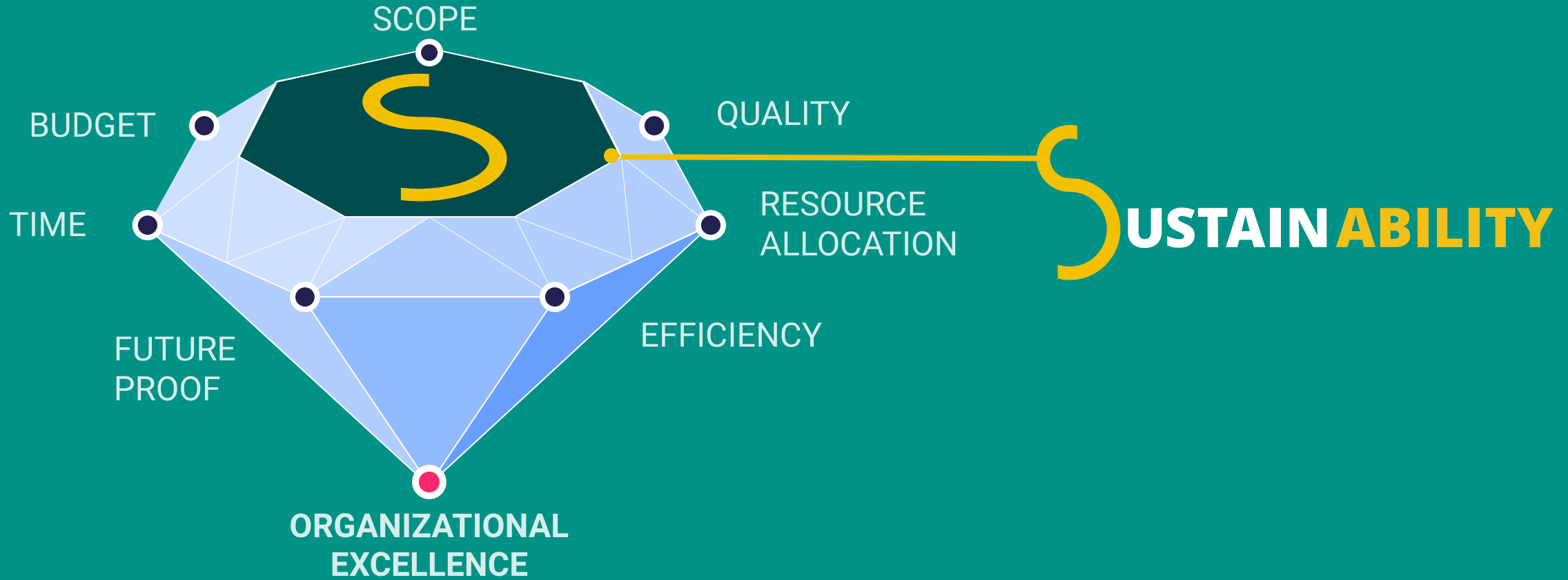


Power BI & Reports

- Monthly Tower Report prepared by Tower Manager
- [Tower Reporting Dashboard](#)



The Organizational Excellence must be guided by Sustainability as a Master Influence



My Journey through IT is probably very familiar to you

Technology and Digitalization over the past 30 Years – **Journey to a different way of thinking**



Sustainable Ecosystems



Platform-Business-Models



Agile at Scale

Booz | Allen | Hamilton



Online Business / Disintermediation



Process Automation

TRASH

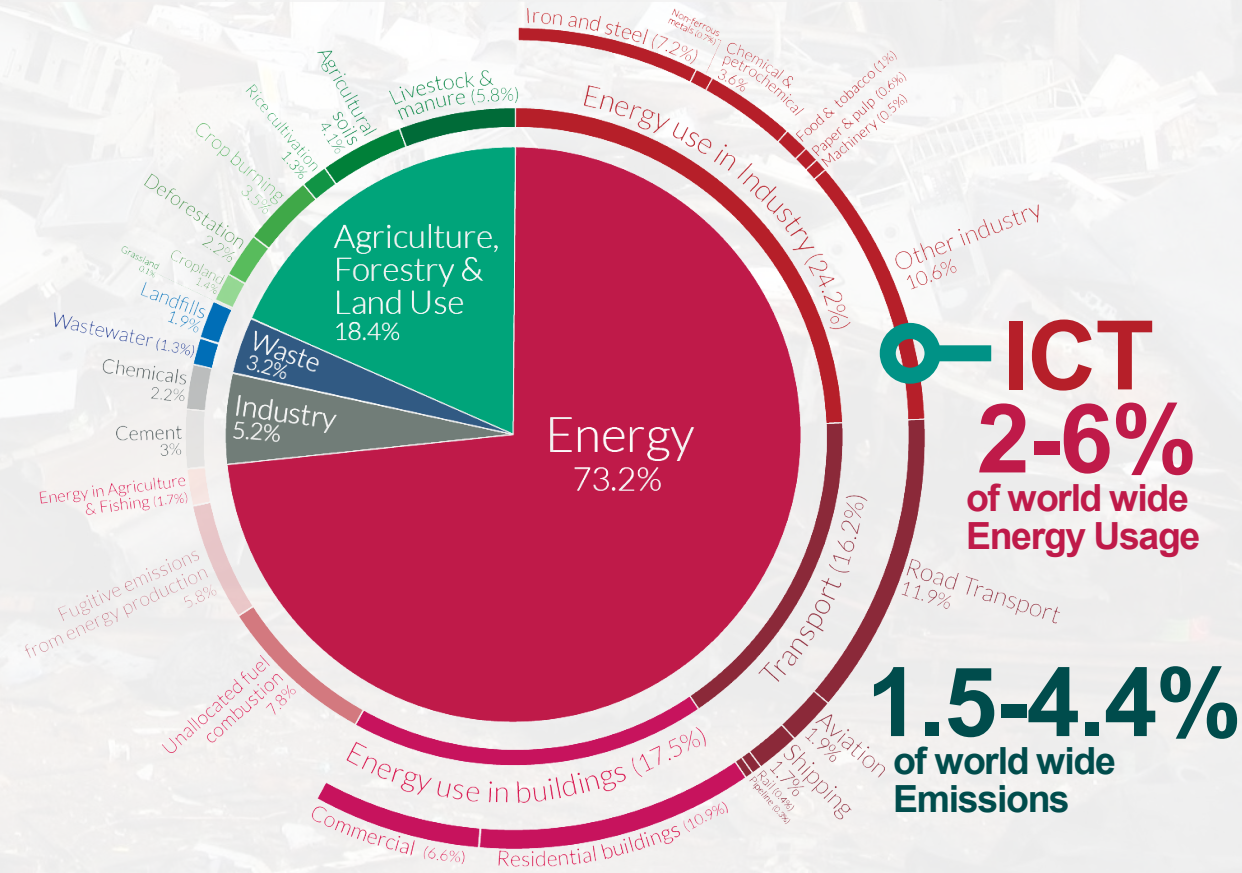


Well known MAIN consequences & impacts of IT

ENERGY USAGE

Global greenhouse gas emissions by sector
This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO₂eq.

Our World in Data



OurWorldinData.org – Research and data to make progress against the world's largest problems.
Source: Climate Watch, the World Resources Institute (2020).

Licensed under CC-BY by the author Hannah Ritchie (2020).

What is Sustainability – FOR ME

SUSTAINABILITY



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



What is Sustainability – FOR ME: 3 Dimensions

My personal
Sustainability
Layer Model



First of all it is a very personal topic!



"It angers me when sustainability gets used as a buzz word. For 90% of the world, sustainability is a matter of survival."

Cameron Sinclair
in CNN's "America Today"

PERSONAL RESPONSIBILITY

The main concept is to better our own IT



- Energy Consumption
- Carbon Footprint
- etc.

But most important in my eyes is the external impact



- REAL game changer
- Creativity & Ingenuity

EMPOWER OUR CUSTOMERS



Using all three levels makes us USTAINABILITY Heroes



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



Personal View on Sustainability



PERSONAL RESPONSIBILITY

Cultural Change & Compassionate Leadership

17 PARTNERSHIPS
FOR THE GOALS



To reach these goals
we need to collaborate
across all sectors, and
we need to engage
our own teams!

Inspire Collaboration
Listen & **Accept mistakes**
learn **Delegate** **Behavioral Goals**
full responsibility Be transparent and open
Work with passion



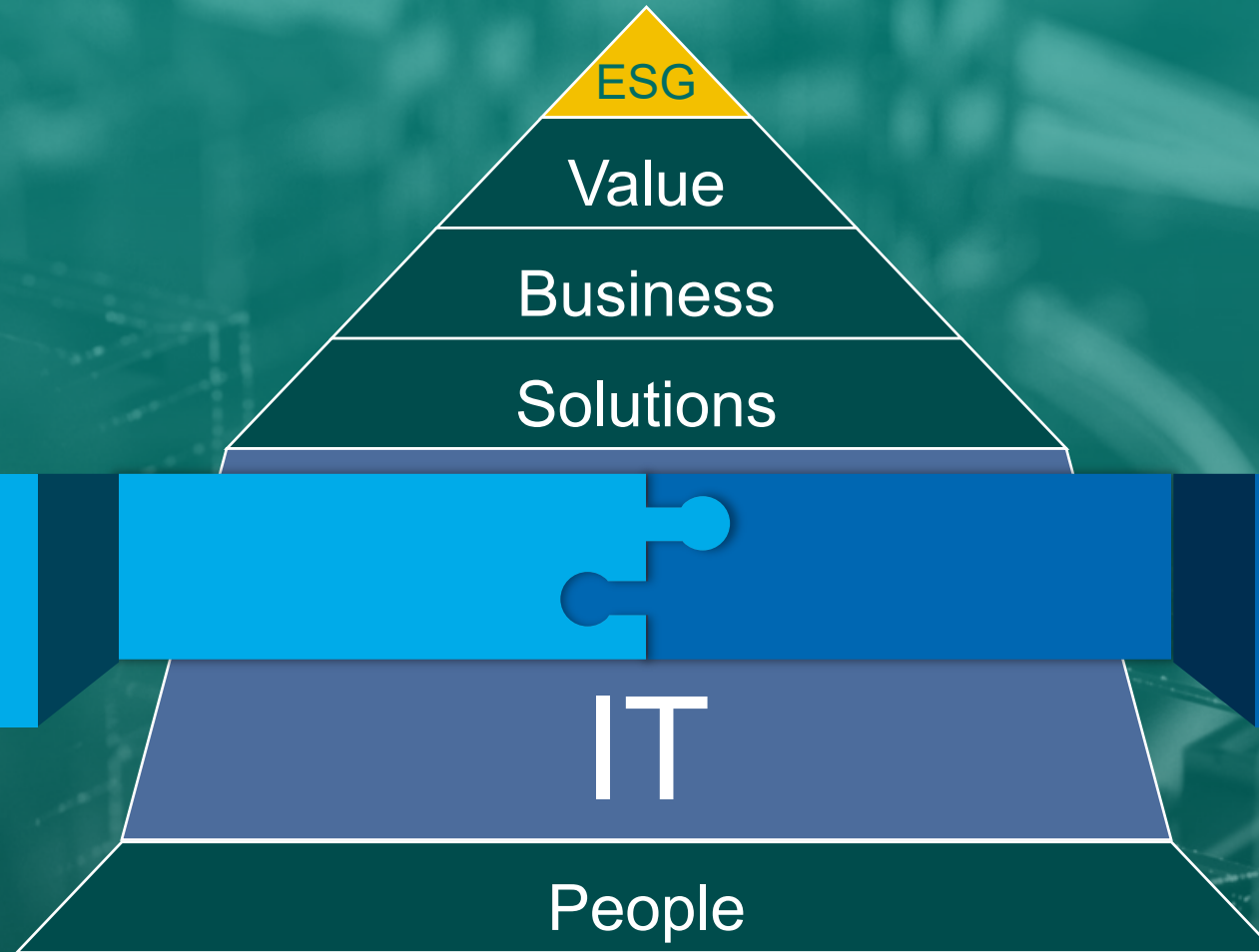
Es wird viel geredet über Leadership und Transformation.
Doch nur, wer sich wirklich **von innen heraus wandelt**, hat Erfolg.

Dorothee Appel
2019 · Leipzig · Messekongress IT für Versicherungen

Internal View on Sustainability



4 SUSTAINABILITY



Internal IT Stack

Partner Supply Chain

Applications

Analytics

Data

Software

Architecture

Infrastructure

Hardw./DataCenter

Change Management

4
SUSTAINABILITY

- Sustainability measures can be found **at every level of the IT stack** and **at every stage of the IT lifecycle**
- **Every department** can do its part to improve IT sustainability

Applications

Analytics

Data

Software

Architecture

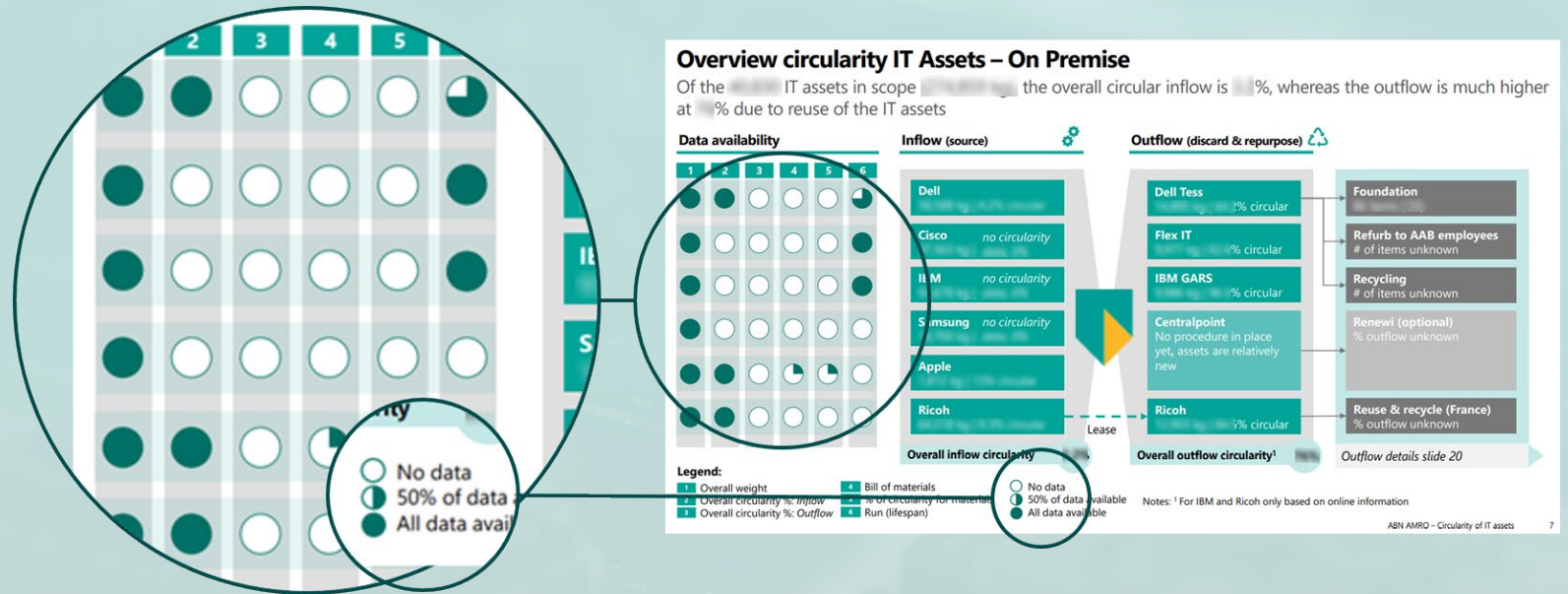
Infrastructure

Hardw./DataCenter

Change Management

EXAMPLE

Circularity of IT Assets



- TAKEAWAY:**
 The topic is new for many organizations and therefore we experience often a lack of data

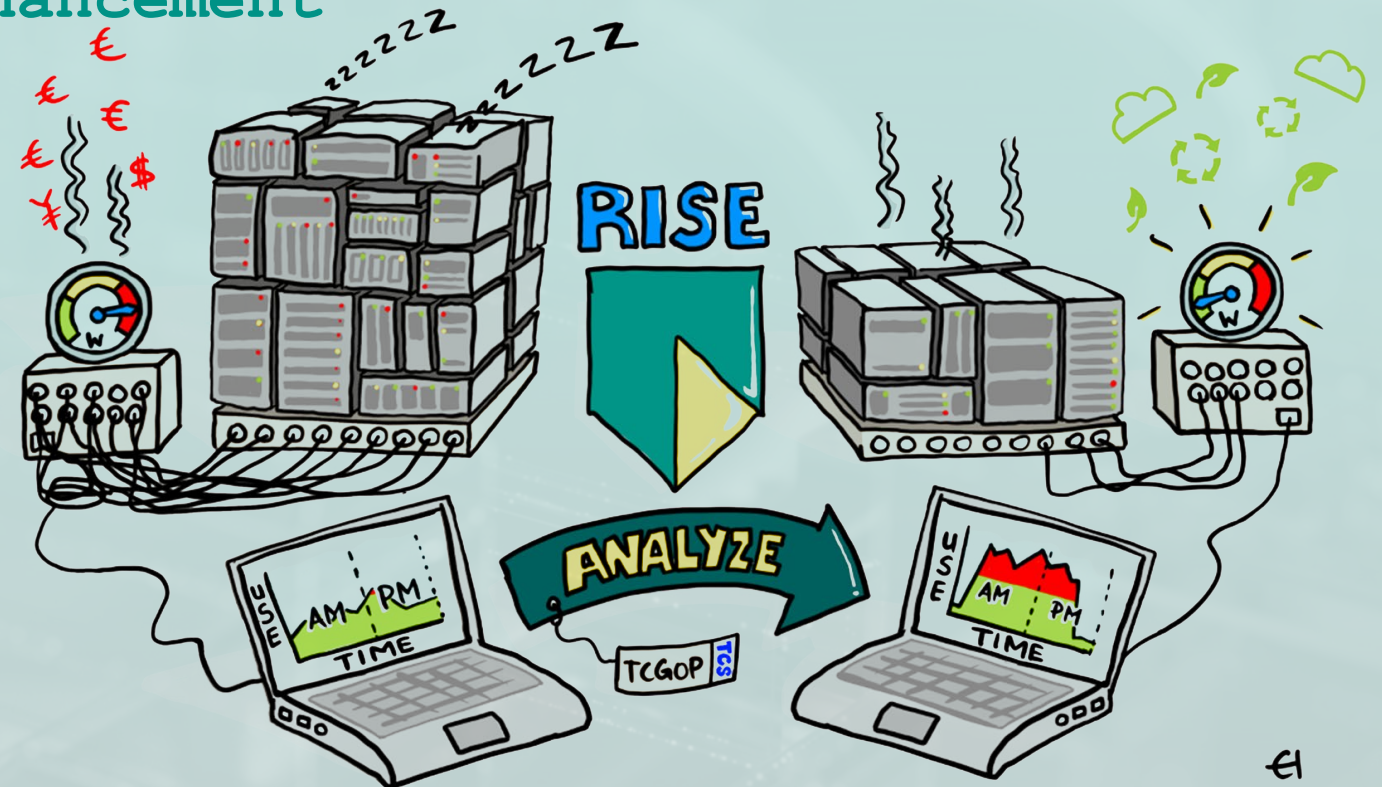
Applications
Analytics
Data
Software
Architecture

Infrastructure

Hardw./DataCenter
Change Management

EXAMPLE

Rightsizing Infrastructure-consumption & Sustainability Enhancement





PROCESSING POWER
EXTRA STORAGE

BLACK
FRIDAY

Applications

Analytics

Data

Software

Architecture

Infrastructure

Hardw./DataCenter

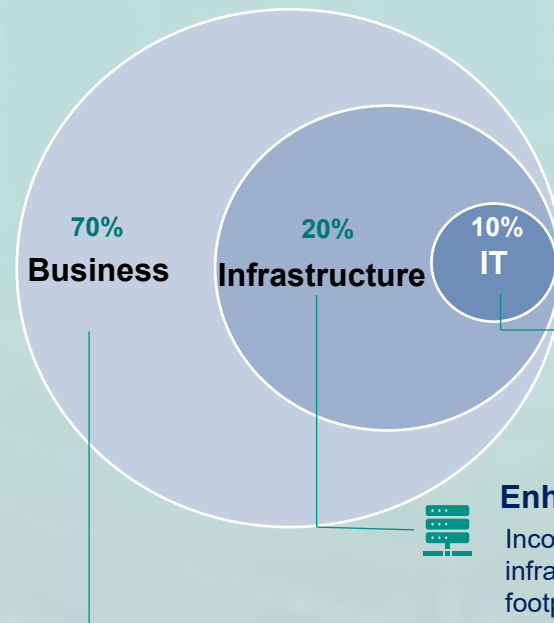
Change Management

EXAMPLE

Rightsizing
Infrastructure-consumption &
Sustainability
Enhancement



Create an Impact through
Greening Core IT & Infrastructure



Build Digital Core
Building a strong Digital foundation driven by innovating Enterprise II layer which provides a scalable and modular platform to complement Business Growth

Enhance the surrounding ecosystem
Incorporating sustainability in supporting infrastructure to bring down the carbon footprints and truly adopt green way of doing IT processing

Innovate Business Models
Leverage Innovation and Research enabled ecosystem to integrate Industry best practices in ongoing Business Operating Models

Sustainable Leadership

How do we reduce the **10%** emissions from IT but more importantly, how do we empower the business to create an impact on the **70%**

EXAMPLE

Rightsizing
Infrastructure-consumption &
Sustainability
Enhancement

Applications

Analytics

Data

Software

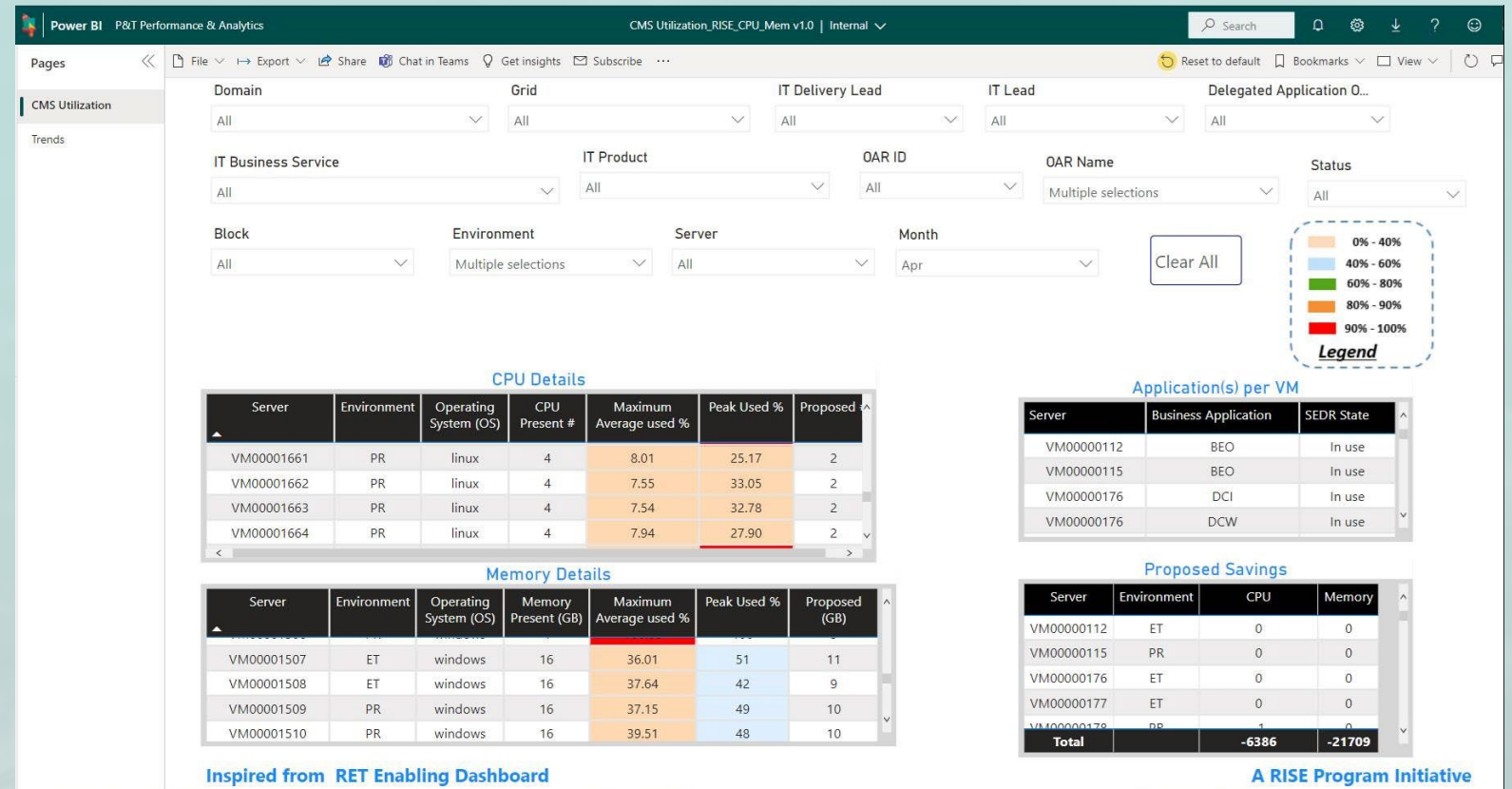
Architecture

Infrastructure

Hardw./DataCenter

Change Management

Rise CMS consumption dashboard



Applications

Analytics

Data

Software

Architecture

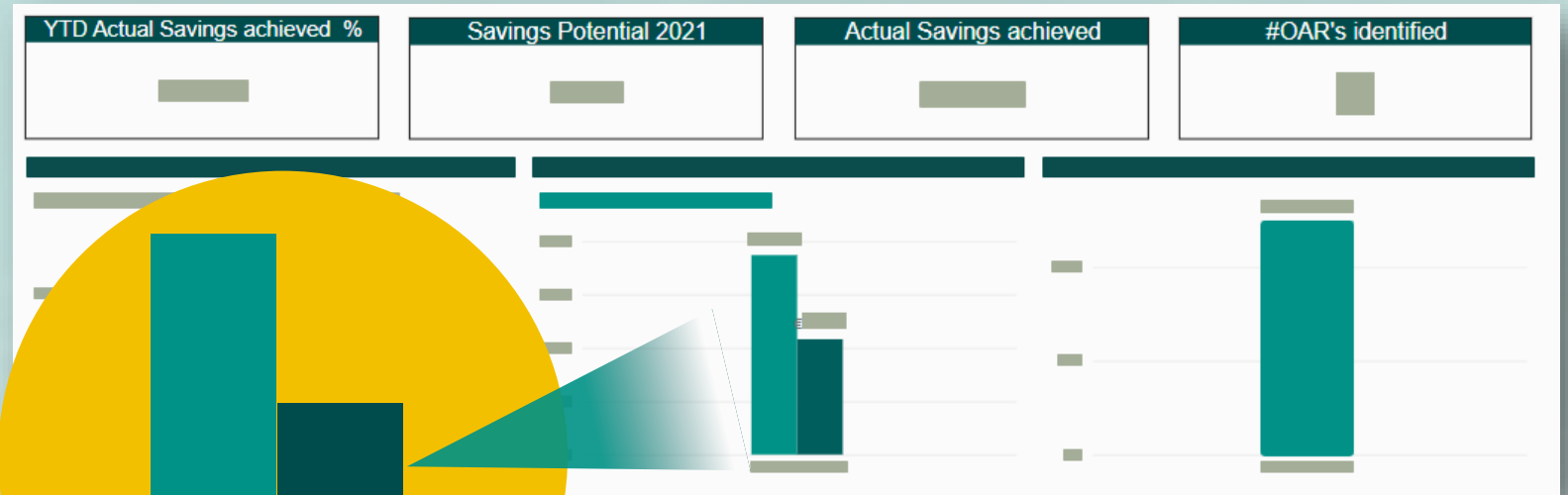
Infrastructure

Hardw./DataCenter

Change Management

EXAMPLE

Rightsizing
Infrastructure-consumption &
Sustainability
Enhancement



A lot to achieve

Potential Achieved

Applications

Analytics

Data

Software

Architecture

Infrastructure

Hardw./DataCenter

Change Management

4

SUSTAINABILITY

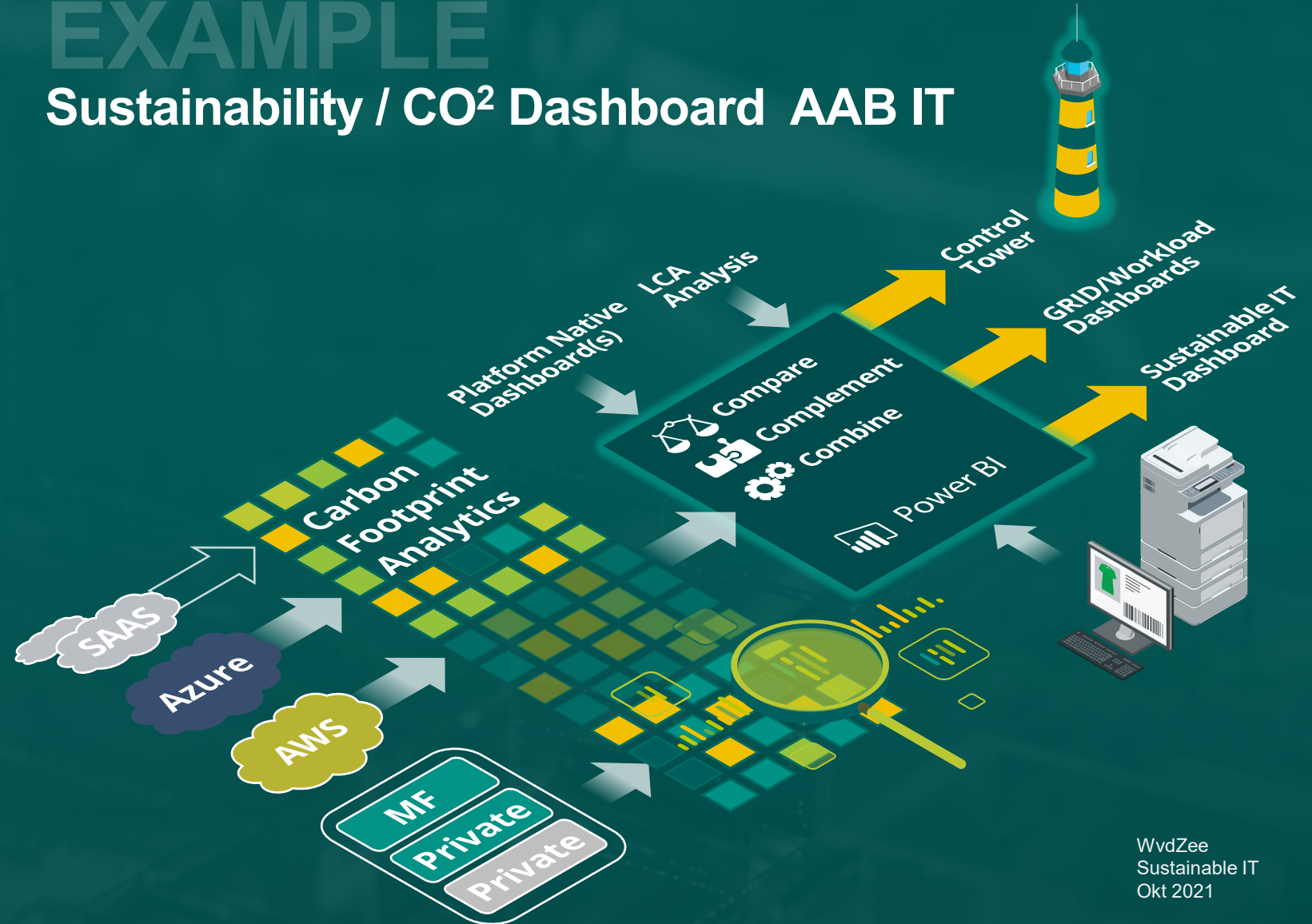
- At the very top of the stack we strive to get a **Footprint Per Application**
- This is the ultimate way of rating our impact in a logical and practical way and thus comprehensible for every stakeholder inside and outside of our teams

Applications

- Analytics
- Data
- Software
- Architecture
- Infrastructure
- Hardw./DataCenter
- Change Management

EXAMPLE

Sustainability / CO² Dashboard AAB IT



EXAMPLE

Sustainability / CO² Dashboard AAB IT First Previews

Applications

Analytics

Data

Software

Architecture

Infrastructure

Hardw./DataCenter

Change Management



Applications

Analytics

Data

Software

Architecture

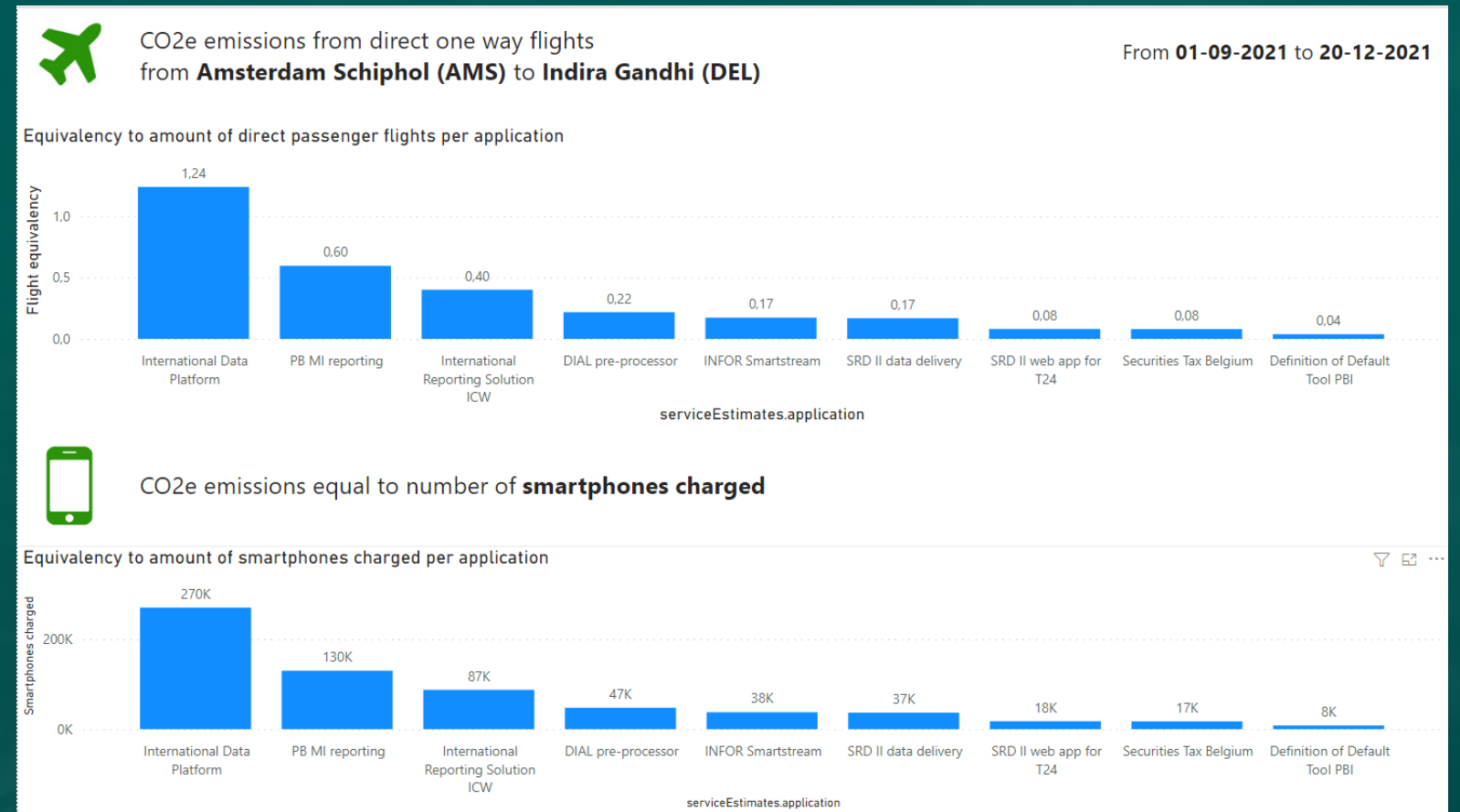
Infrastructure

Hardw./DataCenter

Change Management

EXAMPLE

Sustainability / CO² Dashboard AAB IT First Previews



Applications

Analytics

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Change Management

4

SUSTAINABILITY

- One challenge is the lack of an overarching **Sustainability Rating Framework for Applications**
- We think this is very important and therefore set out to create one with our partners

Groundbreaking Work with VU



17 PARTNERSHIPS FOR THE GOALS



Problem: No existing overarching S-Rating

Cooperation to create an Agnostic Rating Model

Preliminary Sustainability Framework/Quality Model

Continuous Development with VU



Groundbreaking Work with VU



Wiebren van der Zee
IT Strategy & Design - Sustainability



Patricia Lago
Professor of Software and Sustainability



Contact dorothee.appel@nl.abnamro.com if you are interested in collaboration

17 PARTNERSHIPS
FOR THE GOALS



External View on Sustainability



EMPOWER OUR CUSTOMERS





Our overarching goal is to **accelerate the sustainability shift**. We believe that all our clients will be affected by the transition to sustainability in one way or another in the years ahead. That's why we are making sustainability an **integral part of our business**.

EMPOWER OUR CUSTOMERS

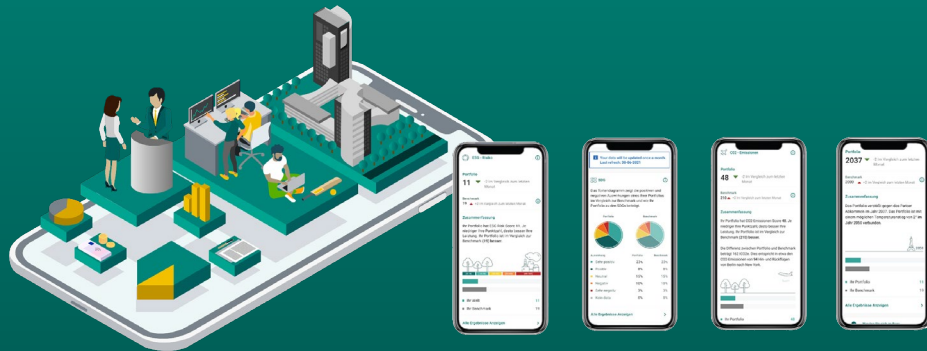
From Dream to Reality

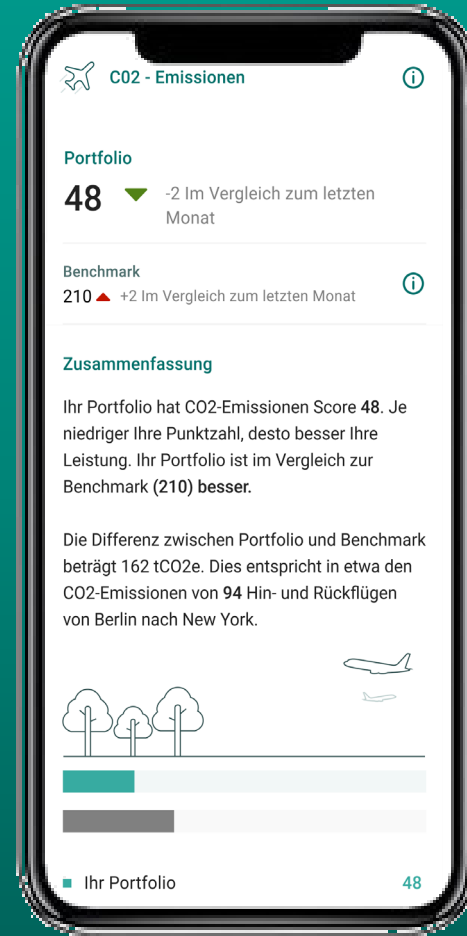
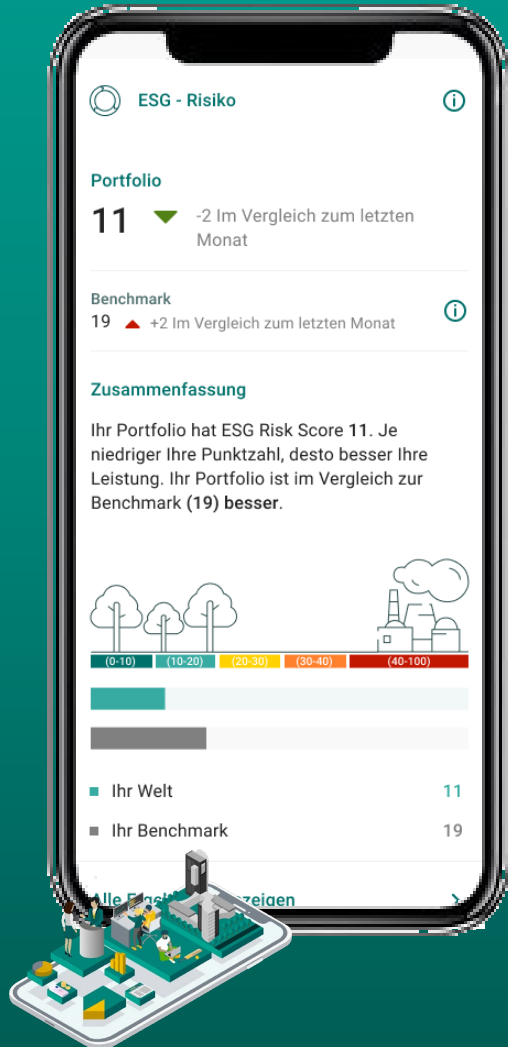


Christiane Kobold
Head Digital Office
Director
Bethmann Bank AG
ABN AMRO Group

“We **inform** our customers on the sustainable impact of their investments portfolio by showing how they are performing on ESG Risk / SDG / CO2 footprint / the Paris Agreement.

Result: a greener, more sustainable world.





Sustainability Report



Wat verstaat ABN AMRO MeesPerson onder DUURZAAM VERMOGENSBEHEER?



SELECTEREN VAN BEDRIJVEN DIE DE BALANS ZOEKEN TUSSEN MENS, MILIEU EN MAATSCHAPPIJ

Daarbij kijken we naar ondernemingen die ...

... zuinig omgaan met grondstoffen

... minder vervuilen

... werken aan innovatieve duurzame oplossingen

... een rechtvaardig sociaal beleid hanteren



Via Beleggen bijdragen aan 17 SDG's



Uitgeleucht: SDG nr. 6 Water

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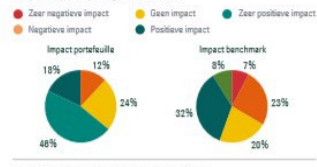
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De impact van uw portefeuille op de SDG's

Onderstaande cirkeldiagram grafiek laten zien wat de positieve en negatieve impact is van uw portefeuille t.o.v. de benchmark en hoe uw portefeuille bijdraagt aan de SDG's.



Impact per doelstelling in percentages



Het Parijs Akkoord

Wat is het Parijs Akkoord? Het Parijs Akkoord is een internationaal verdrag dat op in 2016 is aangenomen door 186 lidstaten van de Verenigde Naties om de opwarming van de aarde tegen te gaan.

Wat is het doel?

Het doel van dit akkoord is om onder andere op lange termijn de stijging van de wereldwijde temperatuur te beperken tot maximaal 2°C in 2060.



Uw portefeuille in lijn met het Parijs Akkoord

In onderstaande grafiek ziet u of uw portefeuille nu en in de toekomst in lijn is met de klimaatdoelstellingen van het Parijs Akkoord.



2029 is het jaar dat uw portefeuille niet meer in lijn is met het 2 graden opwarmings scenario. De benchmark is in lijn tot 2025.

Uw portefeuille ESG RISICO SCORE



Wat houdt de ESG Risico Score in?

In welke mate een onderneming wordt bedreigd door ESG-factoren waarvan deze risico niet worden beheerd.

Hoe komt deze score tot stand?

Eerst wordt de totale ESG risico blootstelling bepaald. Vervolgens kijken we welk gedeelte wordt beheerd door de onderneming. Het gedeelte wat niet wordt beheerd is de ESG Risico Score. Hoe lager de score, hoe beter.

De prestaties betreffende ESG risico scores in uw portefeuille

Laagste ESG risico	ESG risico	Hoogste ESG risico	ESG risico
Krotan Educacional S.A.	10.0	McCormick & Co. PT	88.0
Netcare Ltd.	12.5	Unilever Indonesia Tbk	62.5
Novo Nordisk A/S	30.0	Koninklijke Ahold Delhaize	53.0

Uw portefeuille CO2 uitstoot

Onder de totale uitstoot van de portefeuille verstaan wij de som van de Scope 1 en Scope 2 uitstoot van broeikasgassen. Scope 1 is de directe uitstoot van een bedrijf, veroorzaakt door eigen bronnen. Scope 2 is de indirecte uitstoot van een bedrijf, veroorzaakt door bijvoorbeeld ingekochte energie. Omdat de impact van verschillende broeikasgassen verschillend is, wordt alle uitstoot omgerekend naar CO2-equivalenten per jaar. Dit wordt weergegeven in tCO2e. Dit is de uitstoot bij een investering van € 1.000.000 in de vermogenscategorie 'aandelen' van uw portefeuille.



Het verschil in uitstoot tussen de portefeuille en de benchmark is 125 tCO2e. Dit is ongeveer gelijk aan de CO2 uitstoot van

retourvluchten van Amsterdam naar New York*



*Omrekening gebaseerd op de CO2 uitstoot van een Boeing 777-300. Bron: www.co2emissiefactoren.nl

Bedrijven met de meeste CO2 uitstoot

Bron: ISS/Oekom. Data per 13 december 2019.

Bedrijf	Weging	% CO2
Linde Plc	2,1%	27,2%
Royal Ahold Delhaize NV	2,9%	8,9%
China Everbright International Ltd.	0,1%	8,0%
Orsted A/S	2,0%	6,7%
Koninklijke DSM NV	2,8%	6,6%

And translated this into a seamless customer experience

From dream to reality




We inform and inspire our customers then connect them to their RM or advisor for a dialogue and advice to invest more sustainable

 **ABN-AMRO** Private Banking

From digital to personal to live up to being 'a personal bank in the digital age'



A hand is shown holding a glowing, golden infinity symbol. The background is a dark blue network graph with white nodes and lines. A green banner is on the left side of the image.

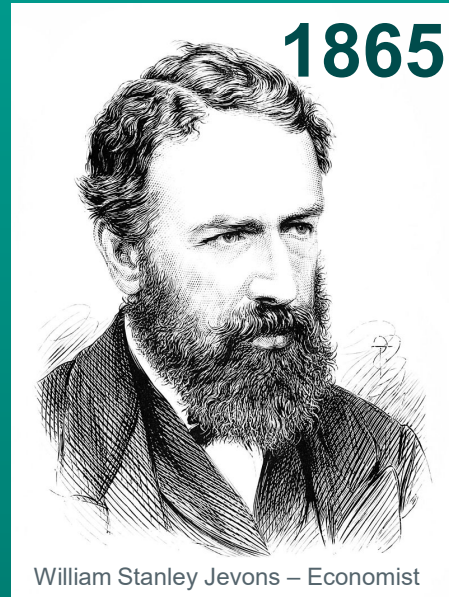
Finally: Paradoxes of Efficiency ...

Paradox 1

What do we do with our efficiency success?

The Jevons Paradox –
The Coal Question

REBOUND EFFECT



2020

Globally, there were over
100 billion hours
of gaming content watched on YouTube.

That's like traveling to Neptune and back

475,000 times!

Paradox 2

Squeezing our IT?

Yes, we can squeeze more CO² reduction out of our IT – but ...

... powerful IT solutions can create ...



Example:
MS Teams

massive IMPACT



Sustainability has 3 dimensions:
Personal, Internal and **External**



IT will achieve Sustainability Goals
only through **Cultural Change**



IT has the potential for **Massive Impact**
when viewed, understood and used
wisely as external **Enabler**



To understand those complex systems,
we need to **Create Accountability** in
our Digital Boardrooms



Dorothee Appel | CIO
Personal & Business
Banking and Functions