

De menselijke factor in duurzaamheid: het optimaliseren van medewerkersgedrag voor bedrijfseco-effectiviteit

Ronald Bottenberg ,Fujitsu

# One of the world's biggest

**FUJITSU** 

The Japanese global ICT company.

The world's eighth-largest IT services

Provider and No.1 in Japan.

History of Fujitsu 1935 Telecommunication equipment Fujitsu was founded in 1935 as a The appearance of computers In 1954, we developed our first After the 1990s, Internet brought Communication devices manufacturer, accelerated progress in science and computer, Fuiltsu contributed to changes to lifestyles and business Since then, Fujitsu has played a major technology, and industrial developing the advanced systems models. Fujitsu contributed to Role to develop the Japanese productivity increased dramatically in various fields, working closely 'network centric' era by providing various products and services.

#### Fujitsu at a glance

#### Fujitsu UVance

Transformation of Business and Society

- Fujitsu is working with our customers and partners to address key cross-industry challenges and launched Fujitsu Uvance as our new business oriented for a better future.
- Using our advanced technologies, skills and knowledge of different industries, we are driving sustainable transformation.



- Revenue: 3,589.7 billion ven
- Operating profit:266.3 billion ven
- R&D Expenses:
   113.8 billion yen
   (Approx. 3.2% of Revenue)
- Stock Exchange Listings: Tokyo (Code:6702), Nagoya





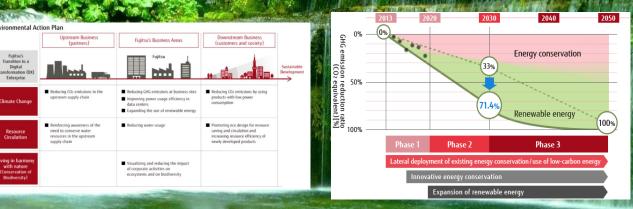
# Unrivalled end to end portfolio & reach via two joined focus business units with complementary skillsets



# Fujitsu in Europe

# Vision without action is a daydream Action without vision is a nightmare





Since its foundation in 1935, Fujitsu has made environmental conservation one of the company's top management priorities, based on the principle of "operating in harmony with nature."

Qub targets are validated as a 1 15 °C rapigned by the Science Based Targets initiative the commitment of top management under the "Sustainability Management Committee" chaired by the president





The Fujitsu Group proactively contributes to the Sustainable Development Goals adopted by the UN and defined as global issues to be solved.





# 17 GOALS 169 Targets

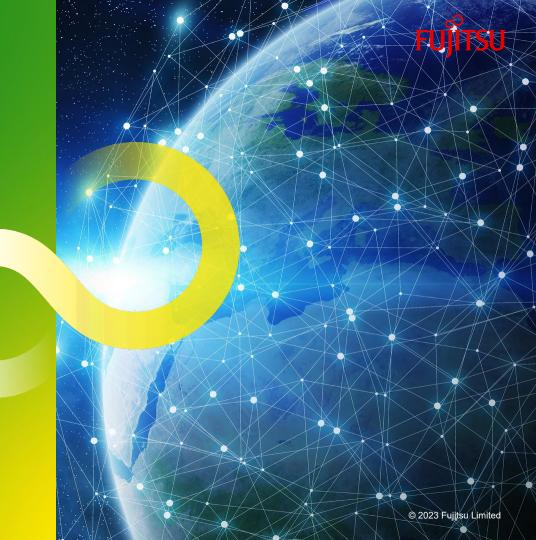


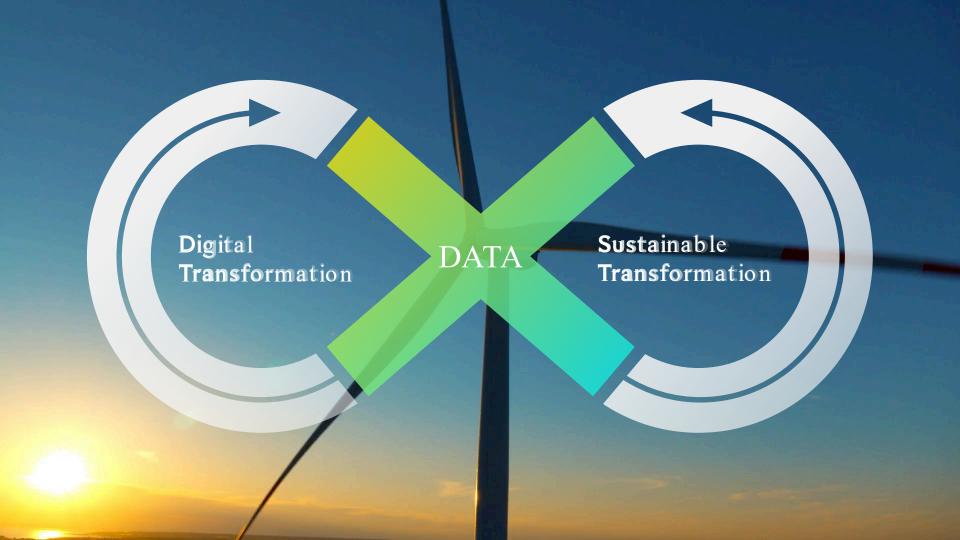
1 NO POVERTY	2 ZERO HINGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 GLEAN WAITER AND SANITATION	7 AFFORDABLE AND CLEAR ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 NEUSTRY REGULATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS
Ħ¥ŧŧŧ	""	<i>-</i> ₩•	Uİ	₫"	À	Ö.	M		(\$)	ABE	CO	•	<b>10</b>	<u></u>	<b>Y</b>	₩
Extreme poverty	Undernourishment	Maternal mortality	Reading proficiency	Frameworks for gender	Safe drinking water	Electricity access	GDP per capita growth	Rural road access	Income growth inequality	Urban slum population	Sust consumption plans	Disaster deaths/injury	Marine pollution	Forest area	Homicide rate	Gav't revenue (% GDP
National poverty lines	Food insecurity	Health staff at births	Children on-track	Violence by partner	Sanitation & handwashing	Access to clean fuels	GDP growth per employed	Passenger-freight volumes	Pop <50% median income	Public transport access	Material footprint	Disaster risk reduction	Marine ecosystems	Protected biodiversity sites	Conflict-related deaths	Domestic taxes
National poverty	Child stunting	Child mortality	Pre-primary participation	Violence by non-partner	Treated wastewater	Renewable energy	Informal employment	Manufacturing value	Discriminatory practices	Sustainable urbanization	Domestic consumption	Local disaster risk	Ocean acid fication	Forest management	Violence prevalence	ODA (\$\$) from OECD
Social protection	Child wasting/obesity	Neonatal mortality	Access further education	Forced marriage	Ambient water quality	Energy intensity	Material footprint	Manufecturing employment	Labour share of GDP	Urban planning Mgmt	Global food loss	Integration climate policies	Fish stock levels	Degraded land	Public safety	Foreign Direct Investment
Basic services	Prod per labour unit	New HIV infections	ICT skills	Genital mutilation	Water use efficiency	Clean energy investment	Domestic consumption	Small-scale industry value	Financial soundness	Cultural heritage	Pucketous settle agreement	Climate change education	Marine protected areas	Mountain biodiversity	Violence against children	Personal remittances
Secure land rights	Small-scale farmer (\$\$)	Tuberoulosis incidence	Disparities in edu access	Time on domestic work	Freshwater stress	Energy service investment	Hourly earnings	Small-scale industry credit	Equal int'l participation	Disaster deaths/injury	Hazardous waste	Climate capacity-building	Hegal'unregulated fishing	Red List Index	Human trafficking	Debt service
Disaster deaths	Sustainable production	Malaria incidence	Literacy & numeracy	Women in parliament	Integrated water Mgmt.		Unemployment rate	CO <sub>2</sub> emissions intensity	Migration recruitment cost	Disaster losses (S)	Recycling rates	Green Climate Fund (\$5)	Sustainable fishery income	Genetic resource sharing	Sexual violence	Investment for LDCs
Disaster costs (\$)	Genetic resources	Hepatitis B incidence	Edu for sust development	Women in management	Transboundary cooperation		Youth education training	R&D spending	Planned migration policy	Solid waste management	Corporate sust reports	Support for Mgmt plans	Research for marine tech	Wildlife poaching	Victim reports of crime	Science/tech cooperation
Disaster risk reduction		Neglected tropical disease		Own health decisions	Water ecosystems		Child labour	R&D researchers	Differential tariffs	Urban air pollution	National sust plans		Small-scale fisher support	Invasive alien species	Unsentenced detainees	Broadband subscriptions
	Agri orientation index			Sexual health access	Our gay or maior		Occupational injuries			Open city spaces	Sustainable lifestyles		Implementing Inf7 sea tive			Sustainable technologies
Poverty reduction prog	The Addition of the Association	Suicide mortality	Qualified teachers	Female land ownership	Local sanitation Mgmt		Compliance labour rights	Section 1997 Commission of Commission	Remittance costs	Safe city spaces	Support sust production				Secret or surrendered arms.	Internet use
Gov't spending	Agri export subsidies	Substance use treatment		Female land rights			Tourism GDP contribution	Mobile network coverage		Urban planning	Sustainable tourism			ODA (\$\$) for forests	Bribery in public	SDG support
Inflows to poverty red	Food price anomaly	Alcohol Intake		Mobile phone ownership			Sustainable tourism jobs				Fossil fuel subsidies			Wildlife poaching	Bribery in business	Tariff rates
		Road traffic injuries		Tracking gender equality	l .		Financial services access			Local risk Mgmt					Gov1 expenditure in budget	District Control of Co
		Family planning					Financial account access			Sustainable buildings						Developing nation tariff Macroeconomic deshboor
		Adolescent births					Aid for Trade								Institutional representation	Policy for sust developmen
		Health expenditure					Youth employment shategy								inclusive int'l participation	National regula framewor
		Air pollution deaths														Multistakeholder progres
		Water, sanitation deaths													Journalist & media killings	100
		Unintentional poisoning													Public information access	Statistical capacity
		Tobacco use													Human rights institutions	Statistical legislation
		Vaccine coverage													Public discrimination	National statistical plans
		ODA (\$\$) to health														Statistical capacity resource
		Medicine availability														Census completeness
		Health workers														
		Emergency preparedness														

Source: https://ourworldindata.org/sdg-tracker-update



Sustainable data-driven transformation







### This is ...





... a mission paper on why & how we can make an impact on sustainable transformation utilizing FUJITSU's datadriven transformation strategy



...a guide to educate & create awareness to showcase the potential of sustainable data management



...NOT a concrete ask -> companies and indivuals need to make their own decisions based on far more aspects like data privacy, data security & business resilience



... NOT green-washing our products & offerings -> ,,sell more"/ ,,buy more are not the answers of sustainable transformation but



We want to raise awareness adding sustainability in the buying / selling decision criteria

# Why data?



1,0**00/0000000**0000

» One best case scenario is that ICT will consume 8% of the world's electricity demand by 2030, compared to 2% in 2020 1)

» Only about ???

ta created is ever

"It's costing us the equivalent of maintaining the airline industry for data we don't even

e of DC energy consumption and could account for 38% rements in 2030<sup>3)</sup>

100-140g CO<sup>2</sup> within entire

use!"(1) \_\_\_\_, 49% of data will be stored in public cloud environments 2)

**175** zettabytes **2025** 

**33** zettabytes **2018** 

**1.2** zettabytes **2010** 

- 1) https://www.bloombergquint.com/business/cutting-back-on-sending-emailscould-help-fight-global-warming
- 2) https://www.seagate.com/files/www-content/our-story/rethinkdata/files/Rethink Data Report 2020.pdf
- Data Center Power Budget and Undermine Sustainability

3) Emerging Technologies: Enterprise Storage Will Consume More of the Available

# Globally Data Centers generate more CO<sub>2</sub> than the Airline Industry



#### Airline emissions are declining, whilst Datacenter emissions are rapidly growing

ICT will consume 8% of the world's electricity demand by 2030, compared to 2% in 2020

Increasing use of compute and AI:

• Training an AI model emits about as much carbon as the **lifetime** emissions of 5 cars

Rapidly Expanding Storage:

- Every day the world produces about 2.5 quintillion bytes of data of which only about 32% is ever used
- The total CO<sub>2</sub> generated in the UK alone from unneeded stored data, according to a report from IET, is the equivalent of **112,500** return flights from London to Australia.
- → It's costing us the equivalent of maintaining the airline industry for data we don't even use
- → New systems are much more efficient than old ones!



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# Let's discuss data minimization

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# Optimize our data usage & minimize



#### Manage your office data better & be mindful of what sustainable behavior looks

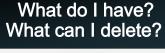
- » Spam emails: 0,3g CO<sup>2</sup>, regular emails: 4g CO<sup>2</sup>, with attachment 50g CO<sup>2</sup>
- » Know what is trash, what is not
  - Data waste could be anything from pointless copies to forgotten backups
  - Make yourself aware of what is required now, in future, never
- » Map your digital waste
  - Where is your forgotten digital trash?
  - E.g. Forgotten backups, emails, expired records & documents
  - Where are large files kept?

- » Take action where you can (but be mindful about data privacy & security!)
  - Check your mailbox (e.g. Filter for large / old emails)
  - Search for common names, addresses, (large) files etc. and remove duplications
  - Long conversations including many emails can be minimized to the latest
  - Unsubscribe from all newsletter you don't need anymore
  - Clean up your calendars from digital waste
  - Consider switching your video streaming off / make sure you are using the time effectively
  - Encourage your team to be more mindful of data being stored in team shares
  - WhatsApp, Facebook, Insta, Snapchat, etc, are backed up to the cloud but not automatically deleted. Consider manual delete
  - Incremental backup is a common backup regime. Efficient and performant at first, it becomes less so with time. Consider annual full backup resets

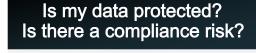
# Gain insights first

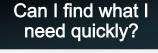




















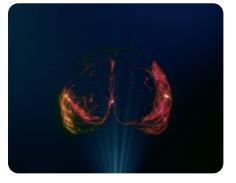
**ACTIONABLE** 



Data with context

## Let's make use of your data!











Experience ideas

Co-create ideas

Test-drive ideas

Bring to life

#### Supported by Project Teams, Data Consultants, DX Experts, Our Ecosystem

#### Experience





- projects with other partner / reference cases
- solutions / challenges
- Innovation / trend discussion

#### Co-create



- Human Centric Experience Design (HXD)
- Data strategy session
- Consultancy services
- Ecosystem
- Enterprise Architecture

#### Test drive



- DX Innovation platform
- AI platform
- Invest in joint PoC / MVPs

#### Win together



• Build joint go-to-markets based on many superpowers

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Let's discuss digital waste management

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#### Our mission





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Don't let your data go to waste. Use it as a key of your digital & sustainable transformation journey.

Adopt data-driven transformation to reach your sustainability targets whilst improving data management. Together, we can master the sustainable transformation, not just for your business success.



Awareness of trash blindness



Co-create data-driven solutions

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Educate to promote data minimization



Digital waste management

In partnership with



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# Host a corporate digital clean up day!

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We will support with material, educational sessions & tools if needed

In partnership with







# You can do two things now

Make use of your data to generate value for your sustainability transformation

Implement digital waste management practice & start meaningful data minization

Fujitsu Response to climate change

#### How does Business Platform help

The Fujitsu Platform Business promotes its Sustainability activities based on the Fujitsu Way. Fujitsu takes care to operate responsibly at every stage of the product's lifecycle..















### Long before "Green" was a popular buzzword, Fujitsu established long-term goals

#### How can Fujitsu help

- 1989 First Fujitsu take-back and recycling program
- 1993 The first "green" PC
- 1994 Blue Angel for Fujitsu as the world's first IT manufacturer
- 2001 The first Eco-Mark certification was carried out on a Fujitsu PC
- 2002 Non-recyclable share of products below 10%
- 2004 Cool Safe introduced for PRIMERGY servers
- 2008 0-watt PC, 0-watt monitor and 0-watt laptop adapter
- 2011 Lead-free soldering at Augsburg factory & introduction of Eco-Design Standard
- 2015 Intensive cooperation with AfB (work for the disabled)
- 2017 Use of green electricity at Manufacturer location
- 2020 Best performance on PRIMERGY, absolute and in performance/watt
- 2023 Sustainability Value Calculator
- 2023 PRIMERGY M7 in SpecPower with double performance with over 10% advantage in power consumption



# Sustainability Hero Products



Fujitsu P-Line Display



- Smart display solutions as factory pre-set save energy with Auto-Brightness Control
- Saves 30% energy in eco-mode
- Environmentally conscious mercury-free LED backlit panel

Fujitsu Eco Mouse (M440 ECO BL)



- 100% eco material (cellulose acetate)
- Bioplastic casing reduces virgin plastic usage
- PVC-free USB cable limits harmful e-waste

#### Fujitsu LIFEBOOK U7x13



- Service door capability to enhance repairability
- 5-year parts guarantee to extend product lifecycle
- Offer zero-watt adaptor to further improve energy efficiency

# Fujitsu PRIMERGY with Cool-safe®



- Patented cooling technology means datacenters can be run at higher temperatures, therefore consuming less energy
- Immersion cooling uses 40% less power and 50% less space for high density deployment

# ICT Sustainability Benchmark

# Sustainability is becoming a top business priority





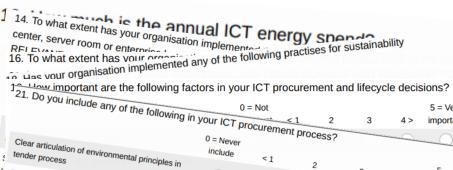
# ssment based on quick surveys

sment measures the readiness and maturity of ustainability relative to our database of over organisations across all industry sectors

important

	Co	
	Strongly agree	
	aura-	
1	Disagree Disagree	
	"sdgree ~	

### 10 What have been the key drivers in adopting any of the abo



22. How do you rate your knowledge and experience in ICT Sustainability and/or ICT energy management

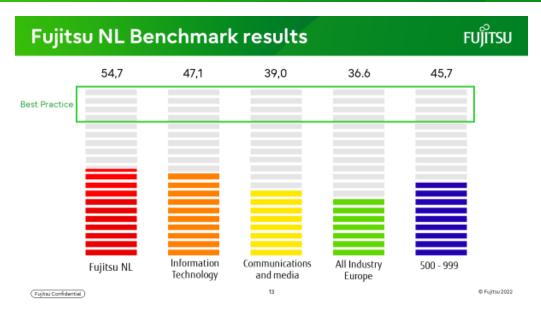
1 Not very good 2 3 4 5 Very Informed 23. What are your key areas for future ICT sustainability consideration?

Educating procurement staff about ICT recycling/waste issues and ICT or

(on a scale from 1 to 5)?

# Fujitsu NL outcomes

















Carbon footprint calculation

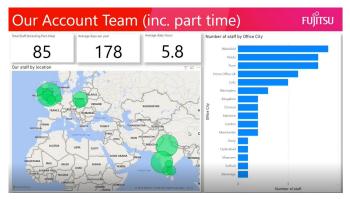
The journey of sustainability transformation has already begun

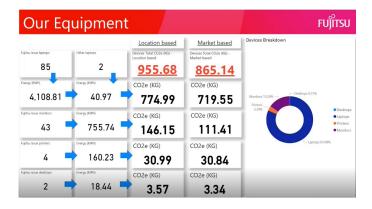


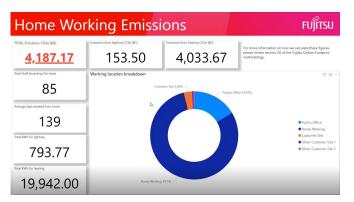
# Fujitsu Carbon Analysis outcomes











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Thank you

