



**CLIMATE EQUITY &
SOCIAL IMPACT**

SEMICONDUCTOR-INDUSTRY

EARTH MONTH

LIGHTNING TALKS

ADVANTEST • ASML • DUPONT • ENTEGRIS • LAM RESEARCH • NXP • TEL

APRIL 19 2024 | 9:00 AM PT | VIRTUAL | FREE

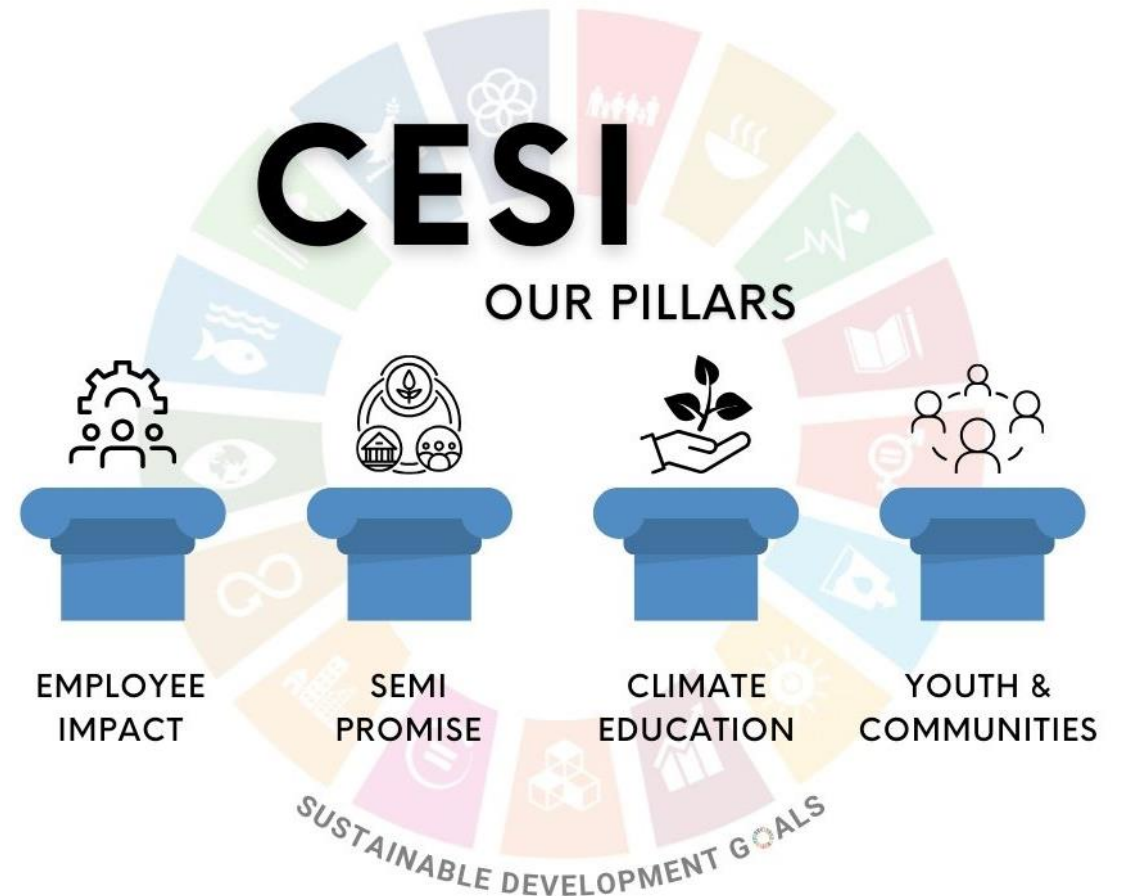
Climate Equity and Social Impact (CESI)

Mission: Bring synergy between semiconductor and technology institutions to prioritize climate equity and justice initiatives, reaching global demographics through education, outreach, and partnerships.

Members: Advantest, ASML, Axcelis, DuPont, Entegris, Lam Research, NXP, Tokyo Electron, and more!

Call-to-Action:

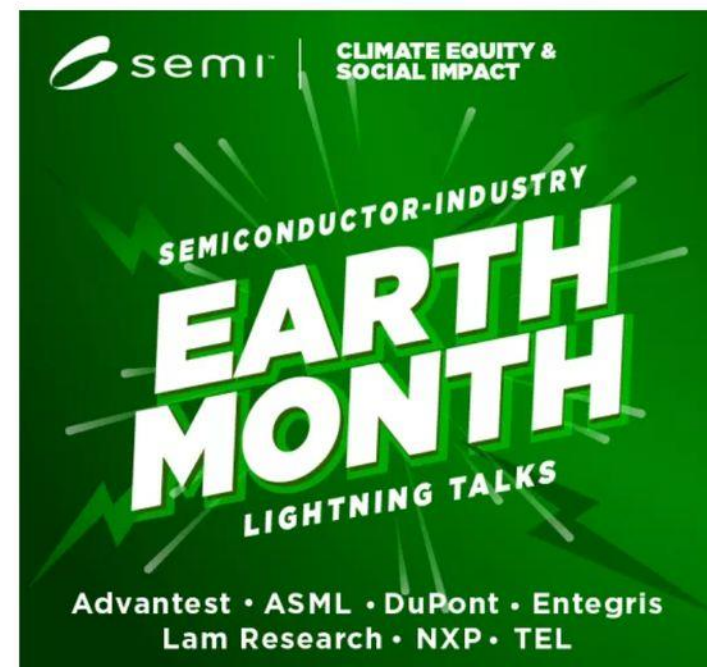
- Join us at: connect.semi.org. Reach out to h hoffman@semi.org for an invitation.
- WG Chair Wojtek Osowiecki
wojtek.Osowiecki@lamresearch.com
- CESI meets every Wednesday from 8:00 a.m. to 9:00 a.m. PST (our next meetings: **5/1** & **5/15**)
- Join CESI's Employee Impact Group workshop on June 13th 8:00 a.m. PST.
 - Watch for the email to register



Welcome to Earth Month Lightning Talks!

This event would not be possible without our active members:

CESI Member	Company
Sumi Maloney	TEL
Greg Woods	ASML
Michael Doescher	NXP
Junko Nakaya	Advantest
Hilary Mathews and Steve Roberge	Axcelis
Phil Glynn	Entegris
Manibarsha Goswami	DuPont
Wojtek Osowiecki	Lam Research



**Hope you will join us so we can
organize future events!**



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John Niggley, SFP
Facilities Manager

+ Strategic Energy Management

80+ projects, saved 1.49M kWh

Focus on low and no cost operational changes

Combine with capital upgrades



7 QUICK WINS – A FRAMEWORK FOR FINDING SAVINGS

+ Recycling / Reuse

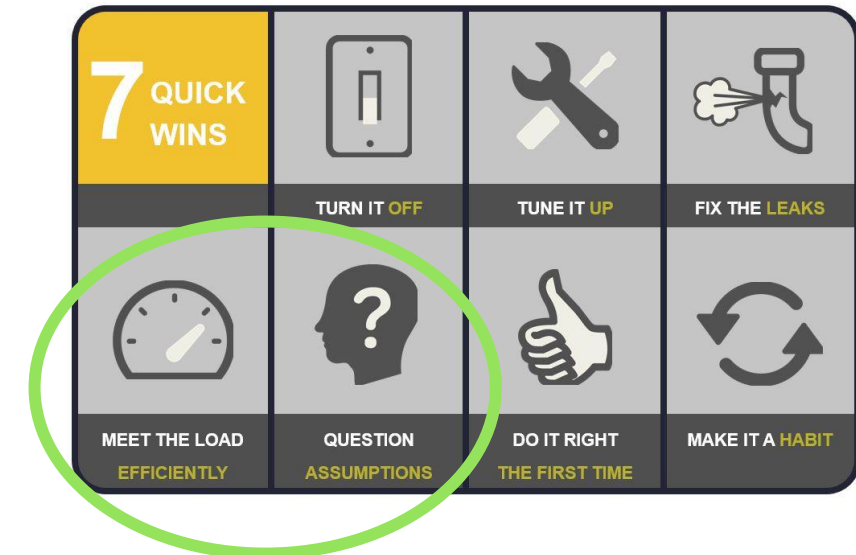
Cleanroom Consumables and Rigid Plastics

Safety glasses, tacky mats, crates

+ Biodiversity

Pollinator Gardens

Miyawaki Pocket Forest





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Green

ASML San Diego

Gregory Woods
Sr. Systems Industrialisation Engineer / Chair Green SD

April 18, 2024

What is Green ASML?



Green ASML's Mission across three pillars

Be you
Green

We drive ASML to incorporate sustainable values into everyday behavior. We do this by **creating awareness**, **building a community** and **driving change**.

- Large yearly event
- Frequent inspirational speakers
- Share progress

- Networking workshop & drinks
- Digital platform to meet & share experiences
- Growing community



- Challenge ASML on sustainability
- Connect ideas and people
- Support bottom-up initiatives

Green ASML – Identity and vision

The Identity | Who are Green ASML and what do we stand for?



We are: a **community** of ASML employees passionate about **environmental sustainability**, reaching the entire company at all levels and many locations.



We stand for: Striving to do what's right. **Thinking big, taking clear steps.** We **challenge** the status quo and **prevent greenwashing.** We lead by example and drive for **system change.**



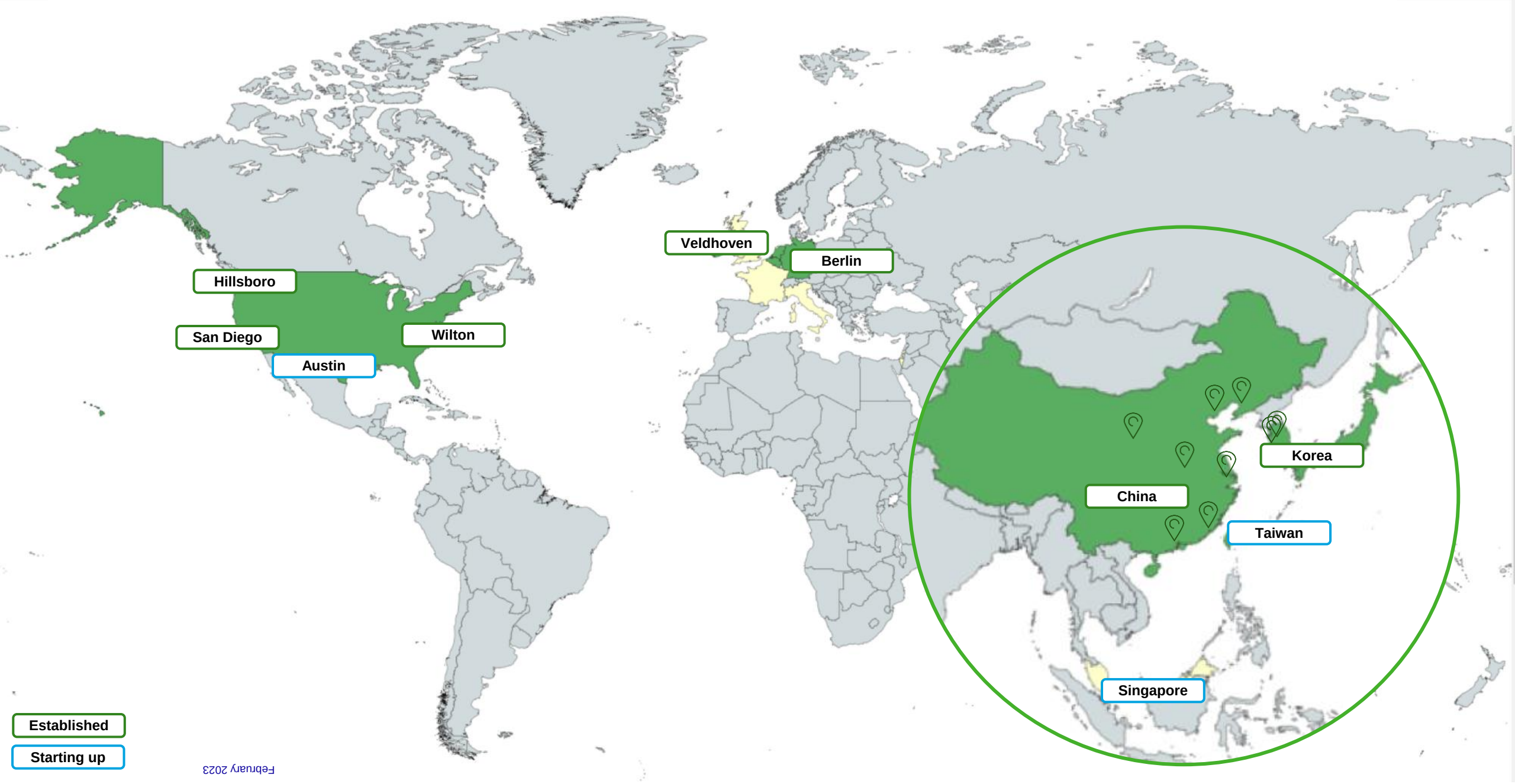
We want to be: a community that people are proud to be associated with, known by all ASML employees as the **challenging** and **inspirational thought leader** within our company.

The Vision | What does Green ASML aim to achieve?



- ASML will **reduce and revert its ecosystem impact**, taking its responsibility as a global leader, including all planetary boundaries such as carbon footprint, biogeochemical flows, freshwater use by 2040
- ASML ensures the formation of an environmental sustainability coalition within the **semiconductor and broader electronics industry ecosystem and value chain**
- ASML ensures the **development & execution of a credible strategy** for this coalition to achieve operations within planetary boundaries by 2040

Green ASML around the world



Green SD – 2024 Themes

Focus Areas



ASML D&I Employee Network*

Environmental Stewardship

Emissions Reduction

Tree Planting

Biodiversity

Awareness & Education

Green Talks

Sustainability Workshops

Green Lunch & Learns

Employee Network Engagement

Membership Growth & Participation

Strengthen Community (Yammer)

SD EN Collabs

Valued Community Partner

Maintain active partnerships

Establish 1-2 new partnerships

How do we create change?



We focus on 7 of the Sustainable Development Goals



Green ASML



Climate Equity and Social Impact (CESI)

Connecting Green ASML's Mission with the SEMI CESI Working Group's Goals

Employee Impact

Q1

- **Veganuary 2024**
- **Green Lunch** – *How changing your diet is impacting the environment*

Q2

- **Campus Clean-up** (Earth Week)
- **Vegan Cooking Class**
- **E-Waste Collection Event**

Q3

- **Green Talks** (collaboration with VHV, Wilton, SD)
- **Volunteer** (Surfrider Beach Clean-up)
- **Sustainability Workshop** (Farm Field Trip)

Corporate Responsibility

Q1

- **Employee Commuting Decarbonization** Workshop
- Investigation for **single-use plastics'** reduction

Q2

- **Bring Your Own Cup (BYOC)** – Waste Reduction Initiative
- **Hydrogen (H₂) Recovery Project**

Q3

- **Global nature-based solutions portfolio**

Youth & Communities

23Q4

- Children's Environmental Health Month Talk w/ **Children's Environmental Health Network & Lam Research**

Q1

- Green SD Board hosted **Clearwater Innovation** (Student-run environmental advocacy program)

Q2

- **SD County Parks Society** Tree Planting
- **Surfrider Foundation** Beach Clean-up
- **Trash4Tokens** Microplastics Clean-up

Initiatives, Projects, Events Overview

Green Talks

- Designed to help improve environmental sustainability by raising awareness and spreading knowledge on diverse topics.

[23Q1] Green Talks on Mending / Upcycling Clothing with ASML D&E Architect Valentina Cassatella



Earth Day 2023 Keynote – Life After Zero w/ Dr. Melissa Gregg on sustainability topics: Green Software, Circular Economy, Carbon Aware Computing



[24Q1] Green Talks on Oceanography: Rising Sea Levels and Seahorses & Seadragons Conservation Programs at Birch Aquarium



Volunteer Clean-ups

- Act as a community leader within San Diego providing volunteer opportunities to all members.

Trail & Habitat Restoration



Surfrider Foundation Beach Clean-up



Verified Reforestation

- ASML San Diego pledges to plant 40,000 trees in Oregon, USA (led by Green ASML).



Total Trees
40,395



Compares to planting 4,769 studio apartments full of trees.



Tonnes of CO₂ To Be Sequestered
23,197



Compares to removing 5,043 cars from the road for one year.



Hectares Reforested
26.7



Provides 160.8 work days to local tree planters.

Waste Reduction

- Zero waste ambitions by 2030, ASML SD implements 'Bring Your Own Cup' project and organic waste composting.



ASML

Thank You



Gregory Woods
ASML San Diego

gregory.woods@asml.com





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Patrick McCrummen
Global Community Impact Leader

Bringing All Our Assets to Scale Community Outcomes and Impact

Aligning our purpose and global community impact strategy





*(Employee-led external
engagement program running
since 1970s)*

Driving impact / helping communities to thrive: Toluca, México



Challenge: Deforestation directly contributes to climate change, desertification, soil erosion, fewer crops, flooding, increased greenhouse gases, and a host of problems for indigenous people.

Solution: Partner with a nonprofit organization to plant trees that, once grown, will help to absorb carbon dioxide and feed the soil with water.

- On June 4, 40 DuPont México employees (and family members) spent 5 hours planting tree saplings in the mountains of Toluca, about 1 hour from our facility.
- Some 1,400 tree saplings were planted, covering approximately 2 hectares of land.
- This project was made possible through our 2021 *Clear Into the Future* grant program.

Partners: DuPont employees (and family members); Reforestamos México.

Ensuring a sustainable future for rainforests.



13 CLIMATE ACTION



15 LIFE ON LAND



Driving impact / helping communities to thrive: China, India and Japan



Contributing to a clean environment

Challenge: While an increasing number of people enjoy the beauty of public waterways, these visits often result in an increased amount of waste left behind.

Solution: partner with local communities and organizations on clean-up projects and increasing environmental awareness of visitors.

- 18 volunteers [and family members] from DuPont's Apollo site (in Shenzhen, China) joined other community members to clear waste from the Maozhou River. 30kg of waste was collected, sorted and properly disposed of .
- 30 employees [and family members] from our Sasakami, Japan site participated in the annual Fukushima-Lagoon clean up event. This is our site's 23rd year of participation!
- 25+ employees [and family members/friends] from our Mumbai, India site helped to clean a section of Bandra Chimbai Beach. Non-biodegradable waste was hand-picked and segregated for recycling.

Partners: DuPont Apollo employees, local Dongzhou community members; DuPont Sasakami employees, local Fukushima community members; DuPont Mumbai employees, Project Mumbai.



Shenzhen, China



Fukushima-Lagoon, Japan



Mumbai, India



STEM Education: First-of-its Kind collaboration in Delaware, USA

STEM education is the driving force for the next generation of a diverse workforce.

This 3-year pilot in Delaware aims to:

- **Equip educators** through equitable access to a library of professional, engaging, standards-aligned digital resources.
- **Empower students**, especially those from underserved communities, to “see what they can be” through engaging career videos and by connecting with DuPonters.
- **Engage DuPonters in classrooms to inspire students** by sharing their own STEM career journeys.

Partners:

- DuPont E&I
- DuPont Global Community Impact
- Delaware Department of Education
- Discovery Education
- STEM-related nonprofits serving Delaware.



2021-2024
Pilot results:

8,60046,000

Active
Educators

Active
Students

DuPont Employee
Career Videos

9





Partnering with Water.org to increase global water access

Challenge: 771 Million people do not yet have access to safe water.

Solution: Water.org has developed solutions to provide access to 60M people—with half of that impact in the last 3 years.

Impact:

- Funding MicroCredit program to **enable 220,000 people a year of access to water** in India, Indonesia, Bangladesh, the Philippines, Cambodia, Kenya, Tanzania, Uganda, Mexico, Brazil, and Peru.
- Supporting Water & Climate Philanthropic Fund to unlock impact investments for water and sanitation infrastructure solutions **that will benefit 100,000 people** living in poverty, **increase climate resiliency** in vulnerable communities, and accelerate progress towards the sustainable development goals.



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Ron McCune

Senior Director

Strategic Operations & Programs

Net Zero

New Target Scope 1, 2 & 3 **by 2040**

Previous Target Scope 1 & 2 **by 2040**
Scope 3 **by 2050**

Scope 1&2 : CO₂ Emissions from energy use such as electricity in business activities
Scope 3 : CO₂ Emissions from the use and disposal of sold equipment, material purchases and logistics, etc.



TAKE*care*



OUR PEOPLE

SAFETY/WELLNESS

OUR PLANET

COMMUNITY/SUSTAINABILITY

OUR PROPERTY

IP/INFOSEC

Take Care of our people, planet & property
by creating a sense of personal ownership
to put philosophy into practice.

TAKEcare, CAMPAIGN

"PROPERTY, PEOPLE, PLANET"

Let's make Every Day,
EARTH DAY!

Interested? Have any suggestions?

Contact: sustainability@us.tel.com



Co-creating the Future

together with industry partners





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ADVANTEST®

Werner Haberstock

Senior Director – Global QA Division

Advantest America

Advantest at a Glance



A **global leader** in the ATE industry with a WW installed base of over 30,000 systems



Our nanotechnology products support leading-edge semiconductor processes at the **1Xnm node**



Our diverse workforce includes **5,500 employees** from **50 countries**



Eco-friendly policies emphasize reduction of our carbon footprint



Semiconductor
Climate Consortium
Founding Member



30by30



TASK FORCE ON
CLIMATE-RELATED
FINANCIAL
DISCLOSURES

**JAPAN
CLIMATE
INITIATIVE**



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



RE100

**CLIMATE
GROUP**



Advantest America, Inc. and EPA

10 Year Anniversary



ADVANTEST

EPA recognizes Advantest Corporation for its continued efforts to expand green power markets since 2012



<https://www.epa.gov/greenpower/meet-our-partners?partner=advantestamericainc>



10 Greenest Tech Companies in the U.S.

JACQUELINE SAHAGIAN | [MORE ARTICLES](#)

DECEMBER 10, 2013



2. Advantest America (NYSE:ATE)

No. 2 on *Bloomberg's* list is Advantest America, which generates 102.4 percent of its annual power usage from eco-friendly wind power. The company uses 12,013 megawatt hours of green power per year. All of Advantest America's green energy is eligible for Renewable Energy Certificates.

Employee Volunteer Activities

Activity Examples

- Second Harvest Food Sort
- Habitat for Humanity
- PMMC Beach Clean-up Day (Quarterly)
- Trail Clean-up Day
- Tree Planting

Results

- 8 times year or 350 hours dedicated
- 4,500 lbs Invasive plants removed since 2021
- 368 lbs of trashed removed from beach
- 540 trees planted by US since 2021
- Over 85 tons of food sorted since 2021 by San Jose & Lake Forest offices



Earth Day Event at Advantest America HQ

April 22, 2024

OBJECTIVE: Continue to raise awareness for sustainability of our planet

MAIN TOPIC: Advantest's sustainability goals for FY2024 and road map to 2030

SPEAKER: Werner Haberstock

Guest Speakers:

- SEMI / SCC (TBC)
- Marine Mammal Center

60X40

**60% Reduction of
Plastic Production
by 2040**



ADVANTEST®

70th

Facing the future together

SUSTAINABILITY



THANK YOU

Werner Haberstock

Senior Director – Global QA Division

Advantest America



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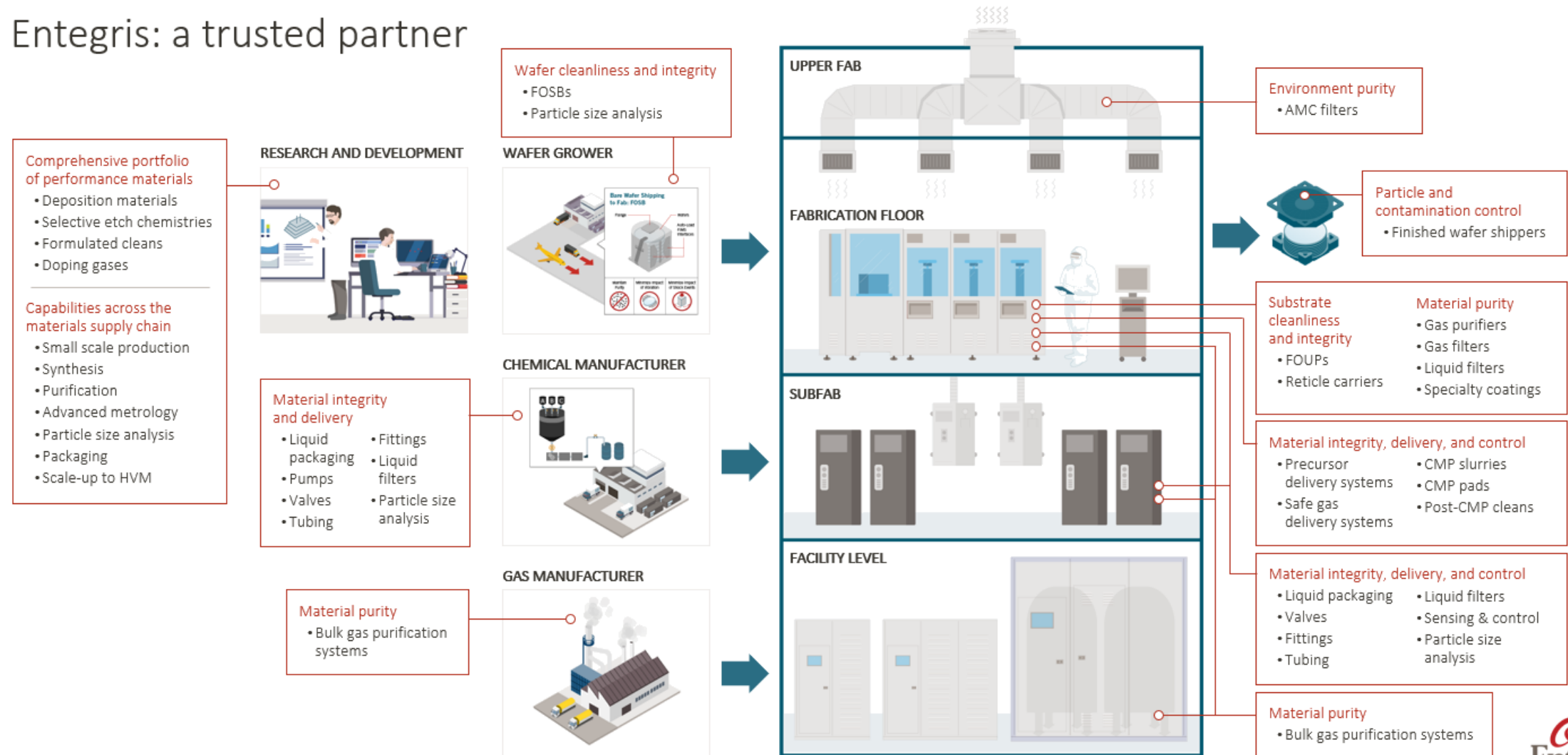
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Paola Gonzalez Aguirre
Application Development Engineer

Mission-Critical Solutions for the Entire Manufacturing and Supply-Chain Ecosystem

Entegris: a trusted partner



Green Packaging: Planet A

To be considered sustainable, a packaging concept should meet these four criteria:



SUSTAINABLY SOURCED MATERIAL

Focuses on identifying and selecting suppliers who are committed to sustainability and green materials



GREEN DISPOSAL OPTIONS

Green disposal of products, claims for recyclability, biodegradability or compostability



OPTIMIZED PACKAGING

Fine-tuning the packaging to make it as efficient as possible while retaining the quality necessary to deliver product safely



LONG-TERM COST-EFFICIENCY

Driving down costs while maintaining a high level of service, quality, and innovation



Because there is no Planet B

Sustainable packaging involves not just using eco-friendly materials but also optimizing the design for maximum effectiveness

Efficient packaging can significantly impact a company's ability to reduce its carbon footprint and operating costs

Green Packaging

Identifying and selecting suppliers who are committed to sustainability and green materials



Sigma VANISH

This revolutionary new film bio-assimilates, leaving no microplastics or toxins behind. Real-world ship testing and accelerated aging shows equivalent performance of Sigma VANISH to POR for at least one year at ambient conditions.



Eliminating bubble pack, PS and PU foam

KorrVu® is a hybrid package that provides an opportunity for source reduction, is curbside recyclable, and contains more than 30% recovered paper, making it easy for customers to be environmentally responsible.



Currently working on:

Awareness

Label the type of the actual packaging (100% recyclable)
PLEASE RECYCLE

Packaging Replacement

Identify and qualify new biomaterials

Packaging Optimization

Packaging that is lightweight and compact helps firms cut shipping costs while also reducing trash



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Laurens Polgar
NXP Sustainable Portfolio
Program Lead

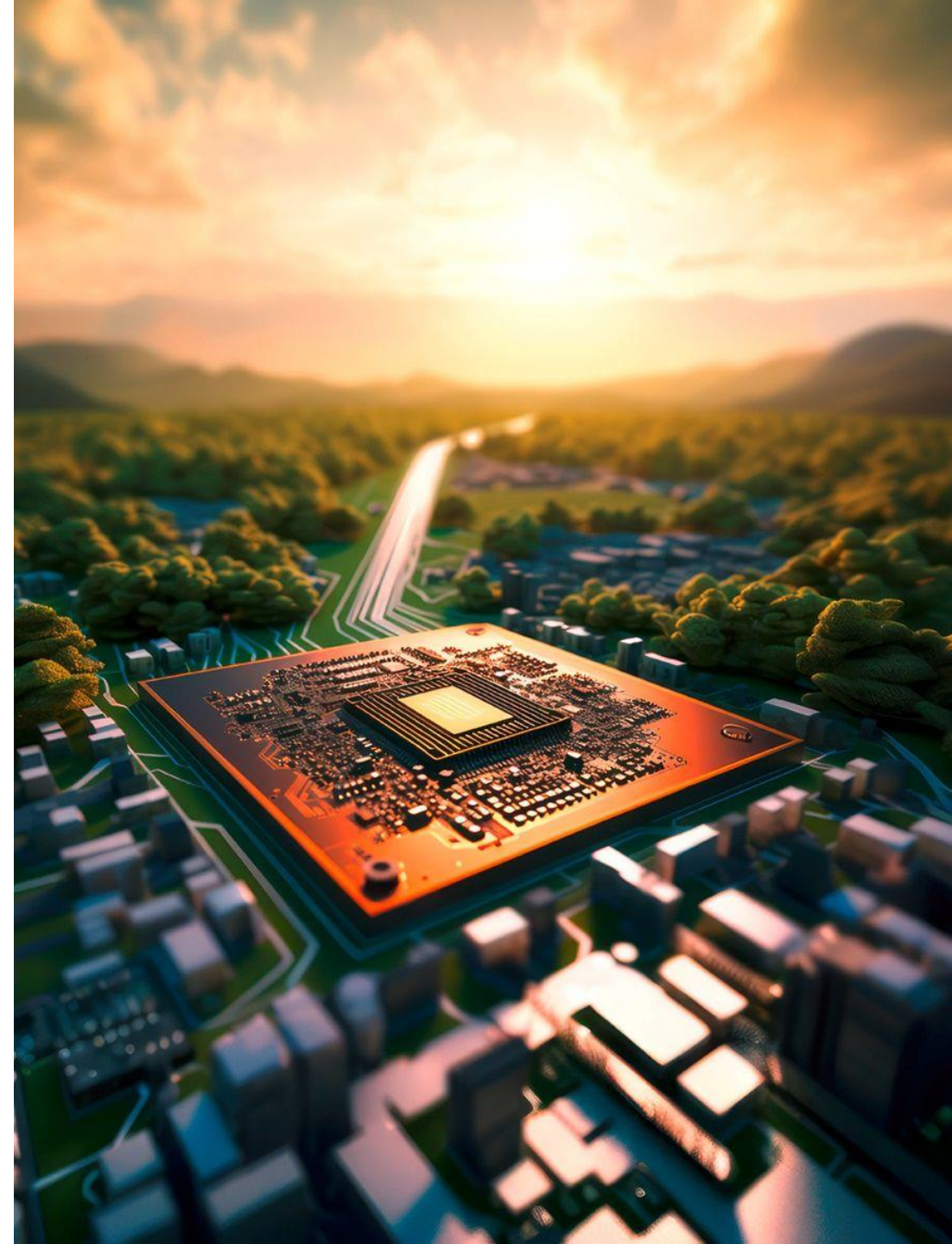
NXP Sustainable Portfolio

NXP Sustainable Portfolio

Scope 1, 2 & 3
upstream
cradle to gate

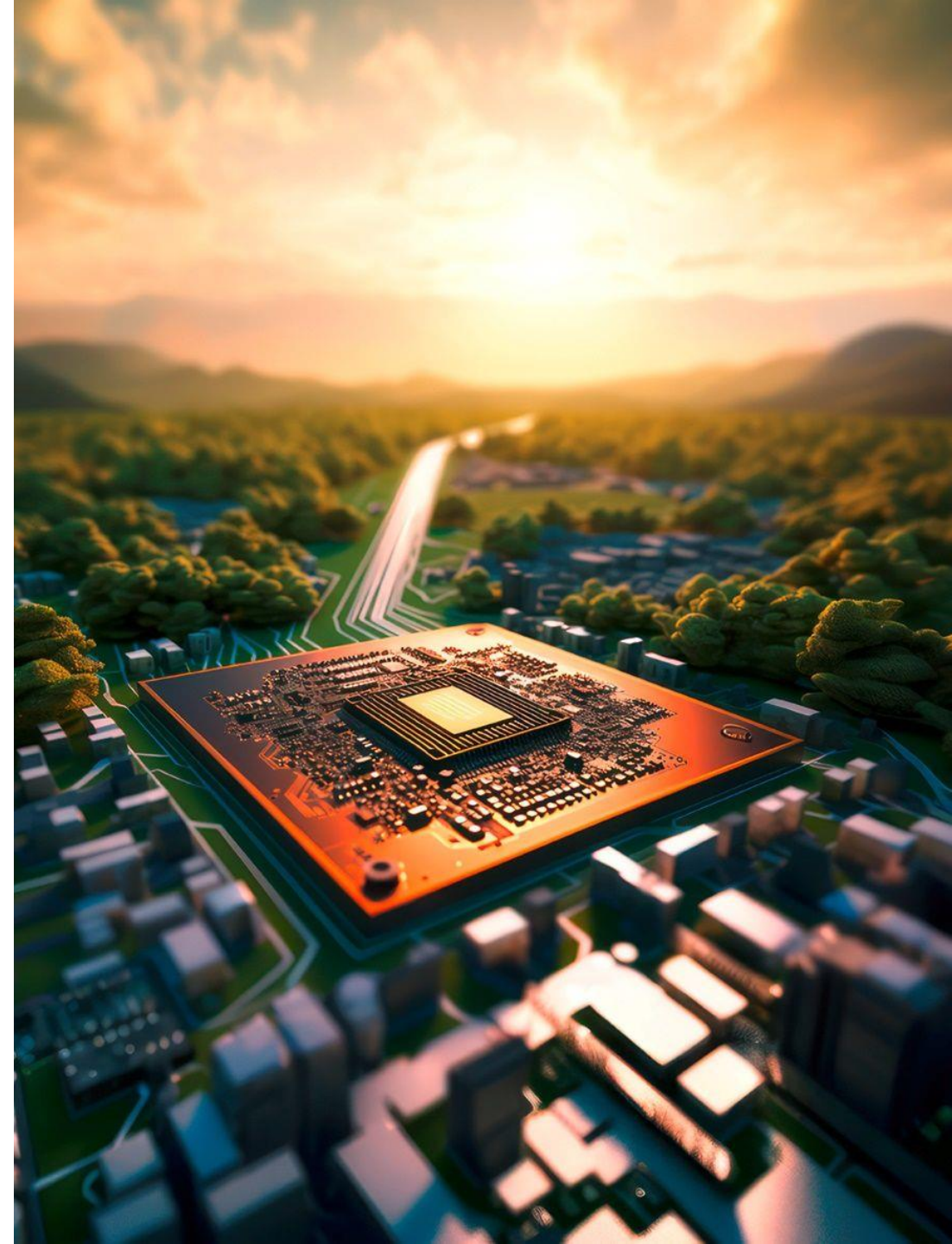
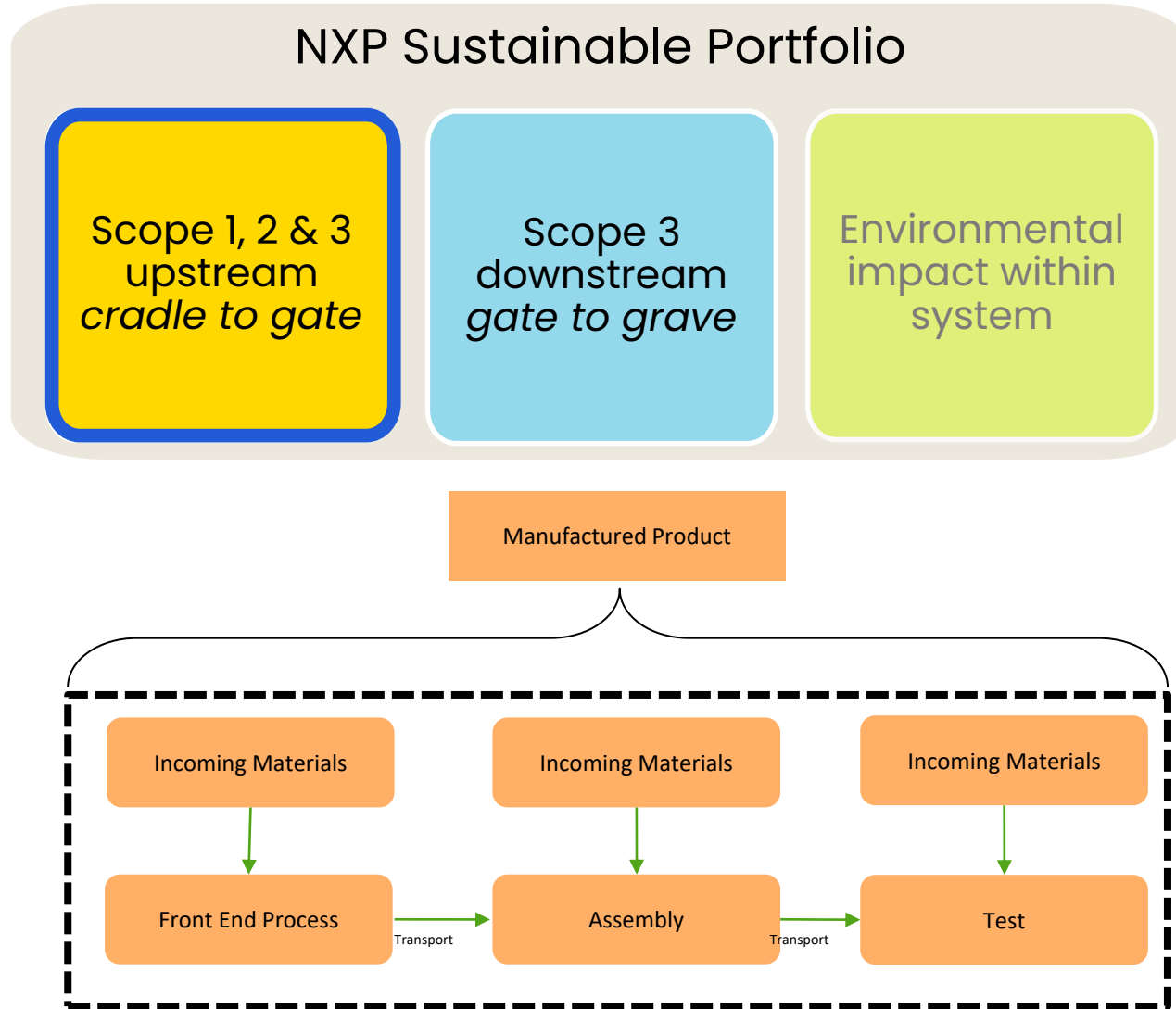
Scope 3
downstream
gate to grave

Environmental
impact within
system



NXP Sustainable Portfolio

Product Carbon Footprint



NXP Sustainable Portfolio

Energy Consumption in Use

NXP Sustainable Portfolio

Scope 1, 2 & 3
upstream
cradle to gate

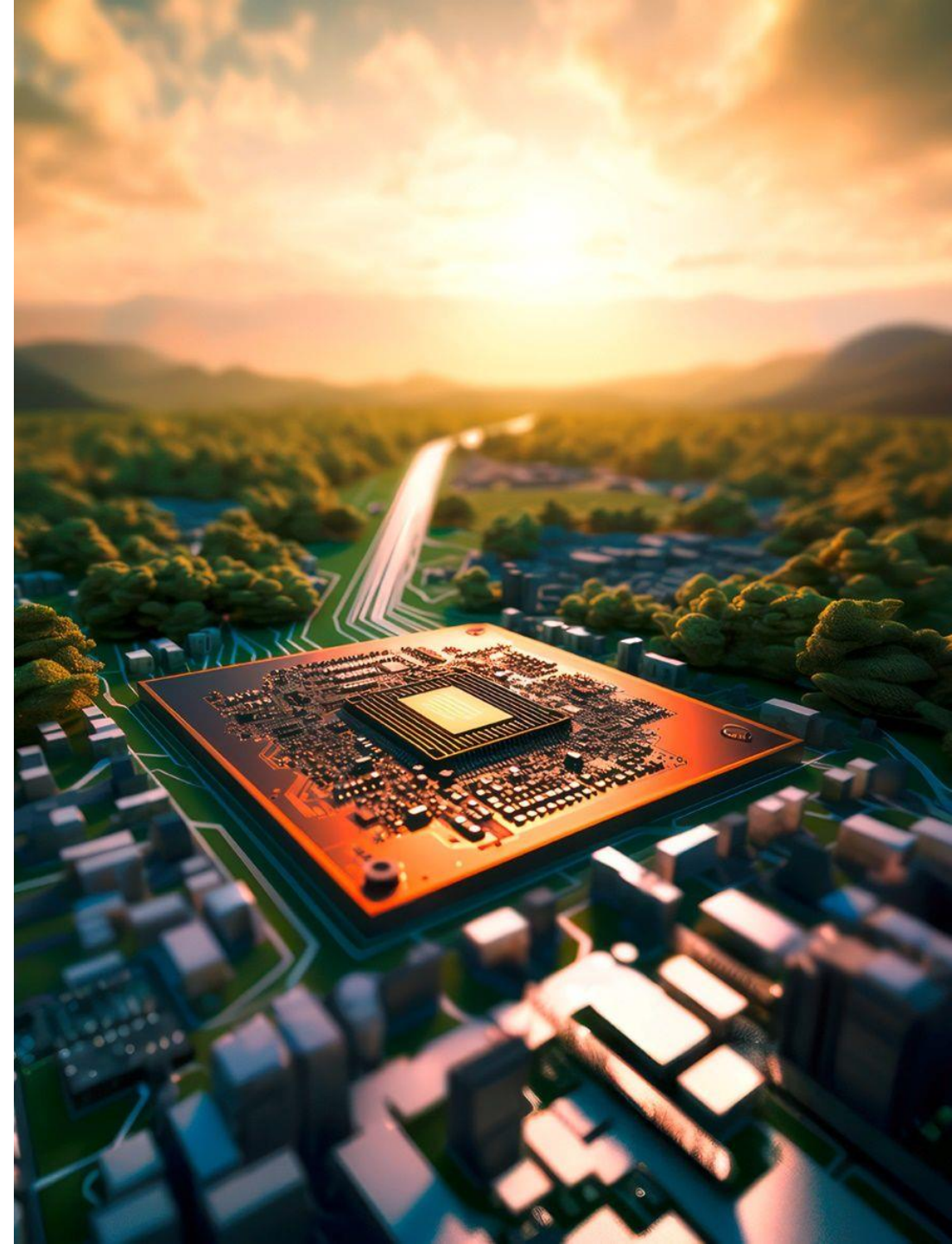
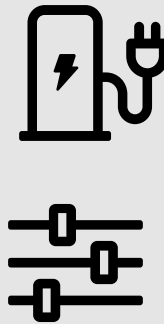
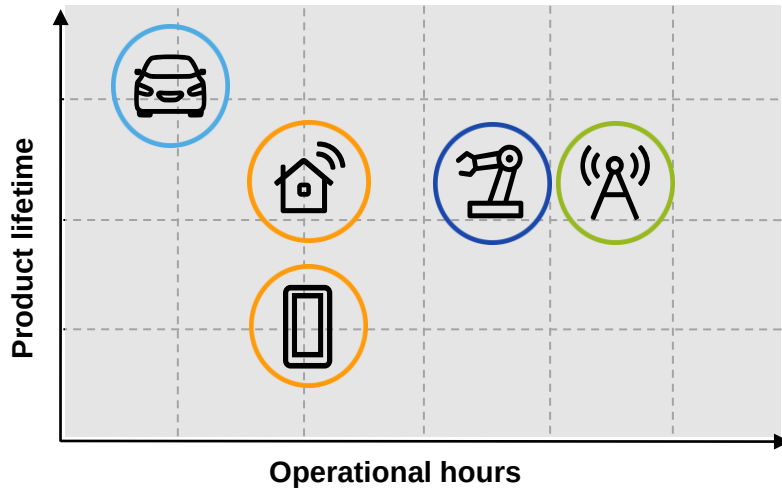
Scope 3
downstream
gate to grave

Environmental
impact within
system

User Profiles

&

Power consumption



NXP Sustainable Portfolio

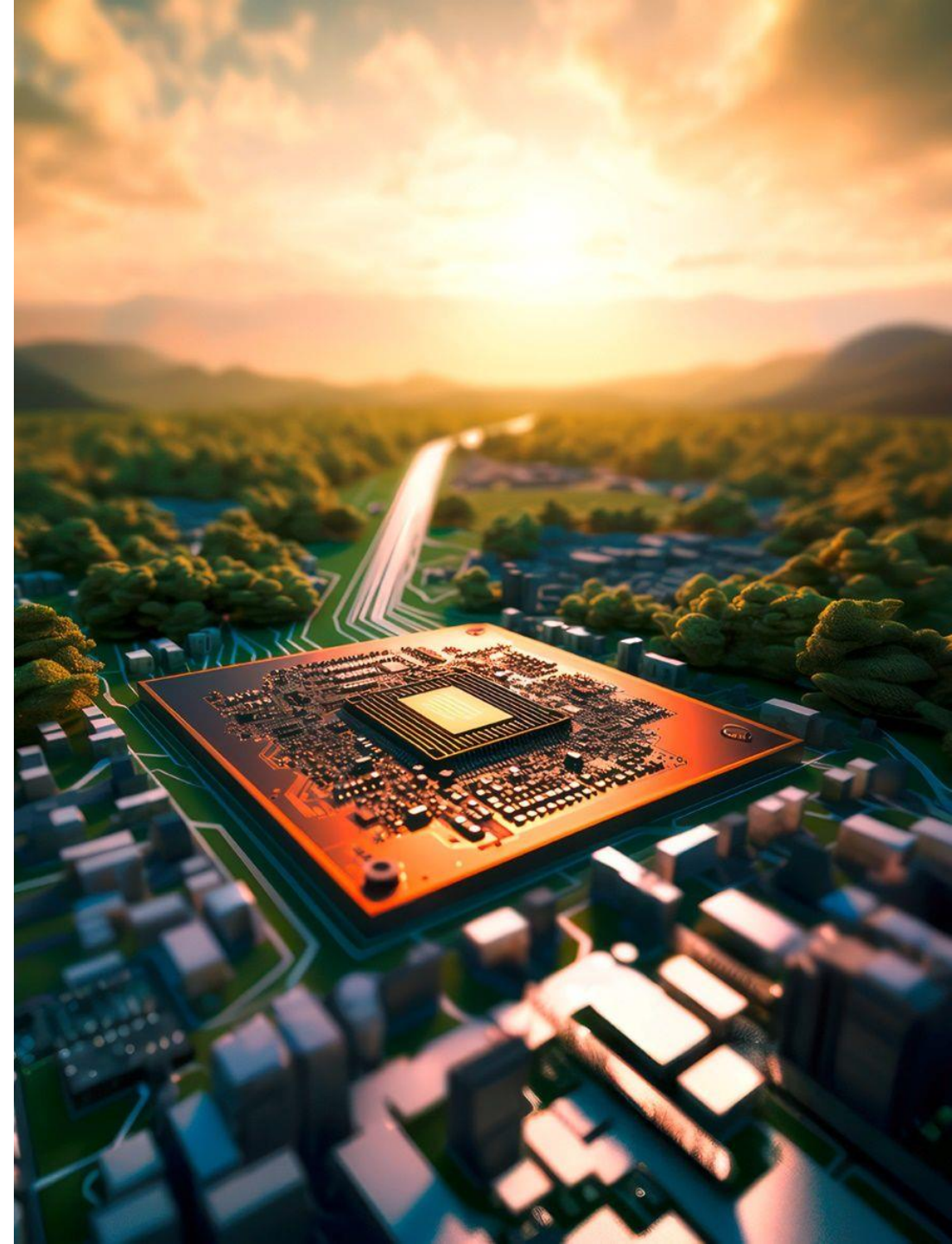
Energy Consumption in Use

NXP Sustainable Portfolio

Scope 1, 2 & 3
upstream
cradle to gate

Scope 3
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gate to grave

Environmental
impact within
system



NXP Sustainable Portfolio

Enabled Environmental Impact

NXP Sustainable Portfolio

Scope 1, 2 & 3
upstream
cradle to gate

Scope 3
downstream
gate to grave

Environmental
impact within
system

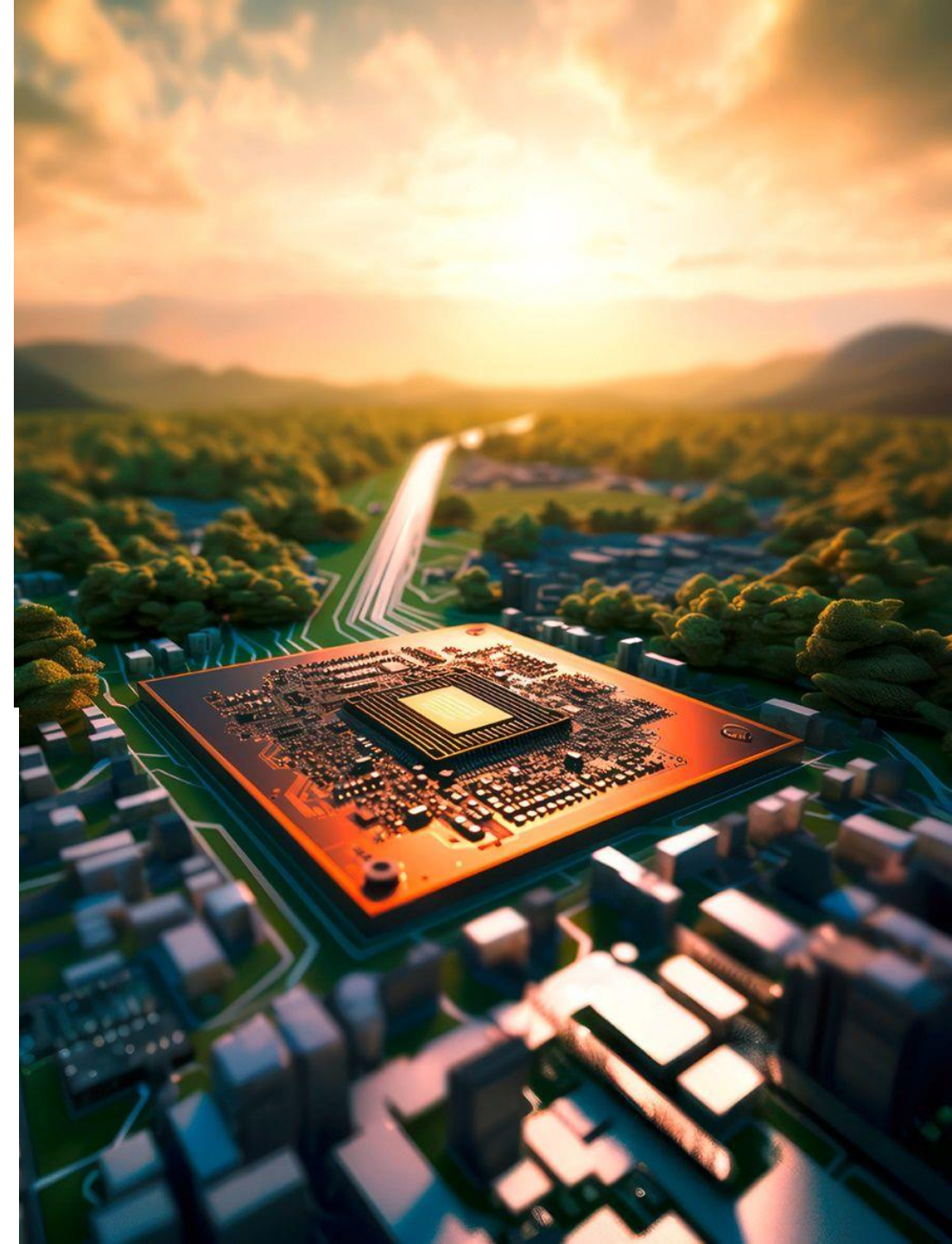
Goldman
Sachs

“Semiconductors could
help avoid at least **5X**
their own footprint”



EPOSS
European Association on
Smart Systems Integration

“It is estimated that digital technologies have the
potential to save almost **10 times** more emissions
than they produce by 2030.”





Get in touch

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