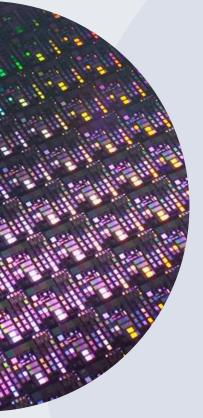




# GLOBALFOUNDRIES"

CORPORATE RESPONSIBILITY REPORT 2020

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### COMPANY PROFILE

Semiconductor technology is not only central to our global economy, it's at the heart of everything—laptop computers, noise-cancelling earbuds, smartphones, data centers, and the high-speed networks and multimedia tools that enable video conferencing to help businesses and schools stay connected. As technology transformation continues to accelerate, it is abundantly clear that the world's reliance on semiconductors will only further increase.

At GLOBALFOUNDRIES, we deliver the differentiated feature-rich solutions that enable our customers to develop these innovative products.

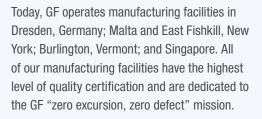
GF provides a unique combination of design enablement, development and fabrication services for a range of high-growth markets. With a manufacturing footprint spanning three continents, GF has the flexibility and agility to meet the dynamic needs of customers across the globe. We partner with some of the world's most innovative companies to develop and produce the semiconductors that support the world's most vital needs.

At GF, we are committed globally to ethical and responsible business practices, the well-being of our employees, and supply chain and environmental stewardship. Corporate Responsibility is fundamental to our culture and our value proposition to our customers, the communities in which we live and do business. and our full range of global stakeholders.

While execution excellence remains our first operational priority, we are more than a manufacturer. We are the catalyst for growth in the industries we serve. With one of the most diversified populations of leading-edge scientists and technologists in the semiconductor manufacturing industry, we make possible the technologies and systems that transform industries. We are dedicated to being the best possible partner for our customers, delivering the expertise and insights to help position them as the leaders in their markets. Our target markets include Automotive, Industrial and Multimarket, Mobile and Wireless Infrastructure, Computing and Wired Infrastructure, and Aerospace and Defense.



# COMPANY PROFILE



GF's corporate offices are in Santa Clara, California (Silicon Valley) with a global network of R&D, design enablement, and customer support operations (please refer to the map "Company Locations").

2019 marked the tenth anniversary of the founding of GF. As we enter our second decade, the company has grown and evolved to become the world's leading specialty foundry. During 2019, we made significant progress in our strategy to optimize our global manufacturing footprint and to address the growing demand for differentiated solutions.

- In April 2019, we announced the launch of our strategic partnership with ON Semiconductor, through which GF will transfer ownership of our Fab 10 facility in East Fishkill, NY to ON at the end of 2022.
- In November 2019, we completed the sale of Avera Semi, LLC, our former ASIC (Application-specific Integrated Circuit) subsidiary to Marvell Semiconductor.
- In December 2019, we transferred ownership of Fab 3E in Tampines, Singapore to Vanguard International Semiconductor (VIS), while maintaining fab operations at our campus in Woodlands, Singapore.
- In December 2019, GF acquired the PDK (Process Design Kit) engineering team from Smartcom Bulgaria AD in Sofia, Bulgaria, expanding GF's worldwide Design Enablement capacity.





### COMPANY PROFILE

In 2019 and into early 2020, GF has been recognized for exceptional CSR (Corporate Social Responsibility) and EHS (Environmental, Health and Safety) performance with the following awards:

### Responsible Business Alliance (RBA) **Validated Assessment Program (VAP) Audit Platinum Recognition**

 GF Singapore achieved the maximum score of 200 in its 2019 VAP Closure Audit, joining ranks with GF Fab 9, which also achieved a Platinum Recognition for a 200 point score in its 2018 VAP Audit.

### • 2019 Dresden Chamber of Commerce **Award for Apprenticeship Excellence**

 GF Fab 1 was honored by the Dresden Chamber of Commerce as an excellent apprenticing company. GF Dresden was also proud that one of our apprentices was recognized as the best microtechnology apprentice graduate in the state of Saxony.

### • 2019 Saxony Environmental Alliance's **Certificate of Recognition**

 GF Fab 1 was awarded a Certificate of Recognition for environmental management measures that go beyond regulatory compliance.

### Singapore 2019 National Fire Safety **Competition – Silver Award**

· GF Singapore won a Silver Award in the 2019 Industrial Fire Safety Competition of the Singapore National Fire Safety and Civil Emergency Preparedness Council.

### • 2019 New York Capital Region's Healthiest **Employers Award**

 GF Fab 8 was among 25 companies who were honored by the Albany Business Review at the 2019 Capital Region's Healthiest Employers awards event.

### • 2019 Vermont Governor's Excellence Award in Worksite Wellness - Silver level

 GF Fab 9 received Vermont Governor's recognition for 2018 activities focusing on promoting the health and wellness of our employees and our involvement with wellness in the community.

### 2019 National Pollution Prevention Roundtable

 GF was awarded NPPR's "P2 Champion Award" in 2019 in recognition of an outstanding impact on implementing pollution prevention.

### • 2019 Green Mountain Water Environment **Association Award**

 Fab 9 Wastewater Treatment Facility received the Outstanding Industrial Facility Award for demonstrated commitment to clean water and pollution prevention.



# COMPANY LOCATIONS







### CEO STATEMENT



**Dr. Thomas Caulfield** CHIEF EXECUTIVE OFFICER

Since our inception in 2009, GLOBALFOUNDRIES (GF) has had a strong global commitment to social and environmental responsibility. Our dedication to upholding the highest standards of ethical business conduct is embodied by our Worldwide Standards: GLOBALFOUNDRIES Code of Conduct. Today, as the world's leading specialty foundry, GF plays a unique and vital role in the global supply chain for semiconductors—the essential enabling technology for the modern world. Throughout the COVID-19 pandemic, GF has managed our operations with

an unwavering focus on two guiding principles:

the safety and wellbeing of our worldwide team. their families and communities; and delivering on our commitments to our customers. With these priorities in mind, GF has taken extraordinary steps to safeguard both its workforce and its global manufacturing operations.

GF's semiconductor technology is vital to a broad range of industries including healthcare. communications, infrastructure and security. Over the last decade, we have played an outsized role in enabling the digital transformation. As a result of the COVID-19 pandemic, society has relied on the digital world in an unprecedented way—to fight a contagion, to run our companies remotely, to keep the economy afloat, to educate our children—in a sense, to enable almost every part of our lives. GF's mission to innovate and partner with our customers to deliver technology and solutions for humanity has never been more pressing or important to the world.

I have the privilege to serve as the CEO of this dynamic global organization and I have long recognized that achieving results requires people to be engaged and committed, to have a feeling of belonging to something bigger than oneself. This requires establishing the right culture. Culture does not happen by accident—it is an outcome. It starts with behaviors that over time create a climate in an organization and eventually become part of the culture of an organization. Through constant focus, reinforcement and vigilance, we seek to create a ONEGF culture of Corporate Responsibility—reflecting and supporting our commitment to safety, inclusivity, ethics, and environmental protection to our employees, communities and customers.





### CFO STATEMENT

The challenges currently facing the world are formidable—the ongoing global pandemic, economic disruption, the growing need for more gender equity and an international reckoning with social injustice. For GF we have looked to our core values—Create. Embrace, Partner and Deliver—to focus and take more meaningful actions as a company, an organization and as individuals. I have never been more proud of the people who make up our company. Acting in unison, we have supported our communities, including helping to address critical healthcare needs precipitated by the pandemic. At the same time, we have accelerated our efforts to build a culture of inclusion at GF, celebrating and leveraging the incredible global diversity of our nearly 15,000 member team.

In this 2020 Corporate Responsibility Report, I am pleased to present the tangible results we have delivered through our commitment to social and environmental responsibility. I would like to highlight these key achievements:

### **Best-in-Class Safety Performance**

We exceeded our goals to reduce 2019 rates by at least 10% below 2018. We achieved best-in-class performance, the result of years of dedicated effort across GF to engage our employees and managers in building a strong safety culture. This shows excellent progress in our Journey to Zero, the underlying principle of our Environmental, Health and Safety policy.

### **COVID-19 Response—Protecting our Employees and Communities**

One of the defining conditions of 2020 is the global COVID-19 pandemic. Around the globe, as the pandemic escalated we implemented comprehensive measures to protect our employees and to ensure that their workplace does not put any employees at risk of infection.

GF was also swift to leverage GlobalGives. our corporate philanthropy/employee donation matching and community engagement program to respond to the needs of the people and families in our communities. GF allocated more than \$1M direct funding in support of numerous campaigns in GF's local communities and additional funding to increase employee donation matching to 2:1 for the remainder of 2020. Also, at each of our sites, GF has donated personal protective equipment (PPE: cleanroom masks, N-95 masks, gloves, as well as boot covers and medical suits) to emergency and healthcare workers. I am proud and humbled to see how many of our employees demonstrated their caring nature and stepped up to support all of our charitable campaigns.





### CFO STATEMENT

### **Embracing Diversity and Inclusion**

At GF, one of our core company values is "Embrace"—a reminder of the strength that comes from a culture of inclusivity, empathy and respect. In 2019 we shaped our GF diversity and inclusion vision, and through 2020 we are implementing measures to continue our journey to build a culture of inclusivity, including:

- Inclusive Leadership and Cultural Agility training: We are implementing a focused training program to train our leadership team on cultural competency, inclusion, allyship, unconscious bias, social tolerance and equity.
- GF is taking a bold approach to the recruitment, development, and advancement of women, with a key focus on differentiated development for women to prepare them for executive roles within the company and on targeted recruitment of women.
- Best-in-class family-friendly benefits: GF offers outstanding parental leave benefits at each location. Building on this foundation, in June 2020 we introduced a significant enhancement for paid parental leave, making GF an even better place for employees to build and grow their families and careers. We increased our paid maternity leave to 20 weeks in the US and APAC regions and enhanced our overall parental leave policies.

In 2020, GF also acted to address racial injustice and civil unrest in the US. We leveraged our Diversity Inclusion Advocates to launch a Social Justice & Equity campaign, donating \$100K to organizations supporting these causes. GF cannot change the world ourselves, but we can do our part as individuals in and outside of the workplace—embracing the richness of all dimensions of diversity and being role models to the industry we serve. the communities we live in and the families who love us. Diversity & Inclusion is a journey and is the foundation to GF's strategic intent. We continue to have more work to do and I am excited to make even greater strides in this area in the years to come.

### **GF SHIELD**

Protecting our customers' information, data, assets and products is the foundation of our trusted relationships. We are proud to offer the highest industry, customer and government criteria for secure manufacturing. Our GF SHIELD program establishes a culture of vigilant regard for, and adherence to, standards and best practices in Information Security, Cyber Security, Operational Security and Product Security, all fortified by comprehensive integrated Confidentiality and Security training for all employees launched globally in 2019.





### CFO STATEMENT



After the first year of a three-year goal process, we are running ahead of our targets to reduce greenhouse gas emissions, water and chemical use and waste generation. Resource conservation is now embedded in our WAVE program management tool that rigorously tracks real time progress and impact, serving to improve our environmental performance.

**Corporate Social Responsibility Management Systems** 

We have continued to perform comprehensive external audits of our Corporate Social Responsibility management systems. Our sites in Burlington, Vermont, and in Singapore both received Platinum recognition from the Responsible Business Alliance (RBA), receiving full scores of 200 points following RBA VAP Audits in 2018 and 2019. As a member of the RBA, we also extend its Code of Conduct to our suppliers, globally. We continue to drive responsible minerals sourcing using tools and processes developed by the RBA's Responsible Minerals Initiative, maintaining a 100% "conflict-free" supply chain for designated conflict minerals.

These are just a few of the highlights from this comprehensive report. I invite you to review the report in its entirety to better understand the level of commitment and dedication GF has to social and environmental responsibility.

I am extremely proud of our progress, made possible by the dedication of our global team, especially in these unique and challenging times. I look forward to continuing to partner with our customers, suppliers and communities to responsibly address the new challenges and opportunities ahead—always with unvielding integrity.

**Dr. Thomas Caulfield** 

CE<sub>0</sub>

GF



### GF STAKEHOLDERS AND CSR PRIORITIES

Our key stakeholders have a significant interest in our business and help shape our company and the products and services we provide. We regularly engage with our employees, customers, communities, suppliers, and industry peers, sharing perspectives and gaining valuable insight relevant to our business and operations.

### **EMPLOYEES**

At GLOBALFOUNDRIES we embrace the diversity of our teams as a competitive advantage. We take great pride in the dedication and commitment of our global workforce to our success and work to further engage employees at both the global and local levels. We nurture a performance-based culture in an environment that encourages individual development, collaboration and new ideas.

Employees stay current on corporate and local site information through communication channels including quarterly all-hands events, the internal bi-weekly global News Digest, our

company intranet (GlobalConnect), the Global Community internal social platform, and ongoing corporate and employee communications, all of which include opportunities to ask questions and provide feedback. To enable employees to stay up-to-date during the global COVID-19 pandemic crisis, we added communication channels, including a weekly video message from our CEO or one of his senior leadership team members. GF also provides the opportunity for more in-depth and confidential feedback via our third-party ONEGF Pulse Surveys, which we have made a quarterly process to ensure timely feedback to key employee concerns.

### **CUSTOMERS**

It is GF's mission to innovate and partner with our customers to deliver technology and solutions for humanity. GF's technologies, solutions services and manufacturing scale give our customers the power to shape their markets. We work closely with both industry leaders and entrants to identify the right technology opportunities and deliver the right solutions across established and emerging applications in our customers' market segments.

We created our Customer Experience program to continually improve our customers' experience when partnering with GF. The program is geared to drive improvements by listening to our customers and feeding their voice back into our business processes.

### GF STAKEHOLDERS AND CSR PRIORITIES



- We track internal, customer-facing key performance indices that closely align to our customers' Quality, Business, Technology, Fulfillment and Responsiveness targets to ensure we can quickly make course corrections when needed.
- We conduct third-party customer relationship surveys to enable a deeper assessment of our performance.
- · We manage customer issues in our Action Management and Escalation system to ensure responsive follow-through to our commitments.
- We meet with our customers on a regular basis to review our performance. Improvement projects are prioritized based on customer feedback.

The relationships we maintain through ongoing dialogue and collaboration ensure that we understand our customers' expectations, including our shared commitment to social and environmental responsibility.

### COMMUNITIES

Along with our global footprint comes a responsibility to the communities in which we operate. GLOBALFOUNDRIES has a long history of community involvement, with wellestablished programs and both global and local teams dedicated to enriching the lives of the people in our communities around the globe. Through our worldwide GlobalGives program, we provide employees at all of our sites with the opportunity to make a positive

impact in their local communities through personal donations, company matched donations as well as through volunteering their time. Recognizing increased community needs during the global COVID-19 pandemic crisis, GF increased its community support, committing in early 2020 to donate more than \$1M to support local communities. GF has also engaged employees directly in the effort enabling them to direct donations of personal protective equipment (PPE). The company has made significant equipment donations including medical-grade masks, gloves, and gowns-to local hospitals and first responder organizations in each of our regions.

### GE STAKEHOLDERS AND CSR PRIORITIES



### **SUPPLIERS**

Our relationships with our suppliers of goods and services are built on a foundation of trust and integrity. We strive to establish longterm working relationships through mutual performance expectations and measures, performance feedback, and continuous improvement plans. We engage with our suppliers through periodic business reviews and our Total Supplier Rating (TSR) process. The TSR determines supplier performance with regard to technology, quality, cost, flexibility, and service including Environmental, Health & Safety (EHS) and Corporate Social Responsibility (CSR). EHS and CSR expectations are established early in supplier relationships to improve efficiency and reduce risks throughout the supply chain. We extend our commitment to responsible business practices to our suppliers. requiring them to comply with the Responsible Business Alliance (RBA) Code of Conduct.

### INDUSTRY COLLABORATION

Through our participation and leadership in semiconductor industry trade associations, we gain valuable insight into the economic, social, and environmental trends that affect our business. These groups include the Semiconductor Industry Association (SIA), the European Semiconductor Industry Association (ESIA), the World Semiconductor Council (WSC), the Global Semiconductor Alliance (GSA), Semiconductor Equipment and Materials International (SEMI), and ZVEI (a leading German electronics trade association).

These associations are engaged in a wide variety of public policy matters ranging from technology, trade, tax, and environmental policy to promoting STEM education and the adoption of energy-efficient technologies. SIA, ESIA, ITI, the WSC, and SEMI all have active EHS committees.

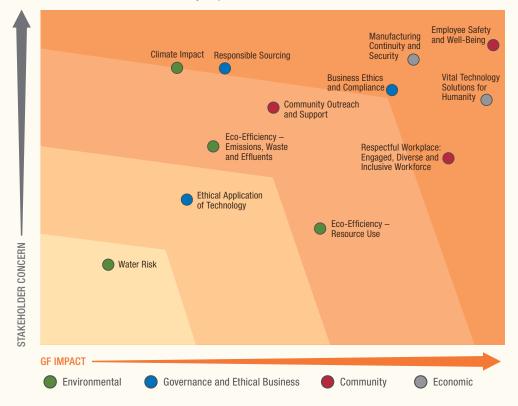


### GF STAKEHOLDERS AND CSR PRIORITIES

### **GLOBALFOUNDRIES' MATERIALITY ANALYSIS**

This report focuses on certain Corporate Social Responsibility priorities that we consider "material" to our business. We periodically conduct a Materiality Analysis by screening and evaluating internal and external stakeholder input and expectations as well as diverse perspectives on the relevance of CSR topics to GF's business. Identified topics are then prioritized with regard to their economic, environmental, and social impacts to GF, as well as their perceived importance to internal and external stakeholders. The resulting Materiality Map (FIGURE 1), which determines the scope and content of this report, was reviewed and approved in 2020 by the GF Stewardship Committee.

FIGURE 1. GLOBALFOUNDRIES' Materiality Map







GLOBALFOUNDRIES is committed to upholding the highest ethical and compliance standards. Each of our employees, contractors, and consultants has the responsibility to carry out his or her duties in a manner consistent with this commitment.

### **GLOBALFOUNDRIES' WORLDWIDE** STANDARDS: CODE OF CONDUCT

GLOBALFOUNDRIES' Worldwide Standards: Code of Conduct (Code) is the foundation of our Ethics & Compliance program and an integral part of our Corporate Social Responsibility Management System. It sets forth the basic rules, standards, and behaviors that we must follow to achieve our business objectives while upholding our values. The Code summarizes legal and ethical standards and provides practical advice covering a wide range of issues pertinent to ethical business practices, including human rights, discrimination, harassment, environmental responsibility, protection of intellectual property, and anti-corruption. It also explains the major elements of our compliance program and identifies where employees can seek help and support. The Code has been communicated to all employees, and employee training and/or certification on the Code is repeated annually.

GF's Code is aligned with the Responsible Business Alliance Code of Conduct (RBA Code). GF joined the RBA in 2016, following years of incorporating its Code into our business practices. We stand committed to the RBA Code and its continuous pursuit of excellence in corporate responsibility and the extension of responsible practices throughout the supply chain.

GF established the Ethics & Compliance Office within the Legal Department to develop, coordinate, and support the compliance program and foster a culture of principled behavior and decision-making. This office is responsible for promoting employee awareness, education and training, as well as creating and implementing a program to assess risks and proactively prevent and detect unlawful/unethical conduct. The Ethics & Compliance Office works closely with the Ethics Committee (including the Chief Human Resources Officer, Chief Financial Officer, SVP Design Enablement, Chief Audit Executive and Chief Legal Officer), which is the body charged by the Board of Directors to oversee the compliance program.





The GLOBALFOUNDRIES Ethics First Helpline is accessible 24 hours a day, 365 days a year, enabling employees and stakeholders to inquire directly about the compliance program and report potential violations and other concerns. The Helpline is available to employees and contractors as well as customers, suppliers, and vendors globally. We promptly review all reports, and the company has a strong non-retaliation policy to protect anyone who makes a good-faith report. Investigations of complaints are overseen by the GF Ethics & Compliance Office, supported confidentially by other internal organizations such as Internal Audit and Global Security.

### **GOVERNANCE FRAMEWORK**

Corporate governance addresses the way in which companies are directed, controlled, and managed. Our governance framework is focused on four pillars: responsibility, fairness, transparency, and accountability.

### **Board of Directors**

The Board of Directors (the Board) is the body charged with the ultimate responsibility for ensuring appropriate governance across the organization and establishes the "tone at the top."

The Board reviews and determines the company's strategy, monitors and assesses the company's corporate and financial performance, establishes and monitors effective compliance systems and policies, and oversees the performance of GF's executive management.

The Board is composed of our CEO. Dr. Thomas Caulfield; representatives of Mubadala Investment Company, our shareholder; and other senior industry leaders. The Board draws on a great depth of experience that spans the semiconductor and equipment industries, international finance, energy, aerospace, and business development. The Chairman of the Board is not an executive officer of the company.





### **Board Committees**

Two committees support the Board in carrying out its governance responsibilities: Audit, Risk & Compliance; and People & Compensation.

The Audit, Risk & Compliance Committee (ARCC) is mandated by the Board to oversee the integrity of financial statements; compliance with legal and regulatory requirements; the effectiveness of internal systems and controls (including the company's internal audit function); the risk management function; and the independence, qualifications, and performance of the company's external auditors.

**The People & Compensation Committee** assists the Board in fulfilling its responsibilities concerning the hiring and compensation of our executives and in providing guidance to GF's management on personnel and compensation issues.

### **GLOBALFOUNDRIES' Chief Executive Officer**

GF's Chief Executive Officer is responsible for managing the company's business and is accountable to the Board. The primary responsibilities of our CEO and senior management broadly cover the management of the dayto-day operations of the business, strategic planning, budgeting, financial reporting, risk management, and compliance.

### **Support for the Board and its Committees**

With the ARCC, the Legal Department and the Internal Controls Department are mandated by the CEO to oversee corporate governance at GF. Together, the Legal Department and the Internal Controls Department certify that the organization adheres to the company's corporate governance framework and associated policies and procedures, provide guidance, and ensure training sessions are conducted on a regular basis.

Internal and external auditors play crucial roles in assisting the Board and management. External auditors are responsible for auditing the financial statements of the company. The Internal Audit organization plays an important role in providing the Board and senior management with objective assurance support for the business and consulting services. Internal Audit evaluates the effectiveness of risk management, internal controls, and governance processes, and makes recommendations for improvement. Internal Audit also acts as a bridge between the Board and management, and reports to the ARCC Committee.

In addition, the Compliance Network promotes our culture of principled behavior and decision making. The Compliance Network consists of a group of influential employees who serve as Ethics & Compliance representatives to help identify key compliance risks, drive engagement, and ensure that training and communications are tailored to the needs of the individual sites.





### **Delegation of Authority**

GF is an integral part of the Mubadala Group. An important mechanism in maintaining a strong relationship with our sole shareholder is the shareholder-approved Delegation of Authority (DOA). The DOA allows the shareholder to exercise control and oversight over the authority levels within the company.

The DOA is a critical component of our corporate governance structure. In accordance with the GF DOA, the Board has delegated certain of its powers to the Board Committees, the CEO, and management. The Board, management, employees, contractors, agents, and anyone acting on behalf of GF are responsible for ensuring that they operate in accordance with the DOA. On an ongoing basis, management in coordination with the ARCC ensures that the DOA is appropriate for the nature of the business and that it is reviewed on an annual basis.

### **The Stewardship Committee**

In addition to the oversight provided by the Board and its committees, the GF Stewardship Committee is responsible for setting strategic direction, conducting management review, and providing approval for risk management and business continuity, global Environmental, Health & Safety (EHS) and Corporate Social Responsibility (CSR) matters. Our Stewardship Committee is led by the CEO and includes key members of the Senior Leadership Team.

### **CSR Self-Assessments and Audits**

GF is strongly committed to protecting the fundamental rights of all people. We strive to maintain a fair and inclusive workplace based on a culture of respect, dignity, and integrity for all. As outlined in our GF' Worldwide Standards: Code of Conduct, the company strictly forbids all forms of child labor and forced, compulsory, or trafficked labor in the operation of our business and in our supply chain.

We respect the rights of employees to associate freely and have a zero-tolerance policy against harassment, including sexual harassment, or discrimination based on age, ancestry, color, marital status, medical condition, mental or physical disability, national origin, race, religion, political and/or third party affiliation, sex, sexual orientation, gender identity, or veteran status.



We assess our own conformance with the RBA Code using the RBA's annual selfassessment questionnaires (SAQs) for each of our manufacturing sites. To date, all of our SAQ results are rated as "low risk" for nonconformance with the RBA Code. At selected sites, we are participating in the RBA's VAP (Validated Assessment Program), an independent third-party onsite conformance audit, SAQ and VAP audit results are shared with our customers within the RBA-Online tool. GFs' 2020 SAQ scores, risk ratings and VAP scores are listed in TABLE 1.

TABLE 1: GLOBALFOUNDRIES' 2020 SAQ Scores, SAQ Risk Rating and VAP Scores

	2020 SAQ		VAP Audit	
	Score (100 points possible)	Risk Rating (>85% = Low Risk)	Score (200 points possible)	Date and Type of Audit
GLOBALFOUNDRIES (corporate)	93.8	Low	N/A	
GLOBALFOUNDRIES Fab 1, Dresden, Germany	89.3	Low		
GLOBALFOUNDRIES Singapore (Fabs 2, 3, 5, 7 & 3E)	89.5	Low	200 (RBA VAP Platinum Level Recognition)	May 2019, Closure Audit
GLOBALFOUNDRIES Fab 8, Malta, New York	89.5	Low		
GLOBALFOUNDRIES Fab 9, Burlington, Vermont	88.8	Low	200 (RBA VAP Platinum Level Recognition)	December 2018, Initial Audit
GLOBALFOUNDRIES Fab 10, East Fishkill, New York	90.4	Low		





### **Risk Management and Business Continuity**

GF manages risk at the enterprise, business function, and manufacturing site levels in order to meet our commitments to customers, the community and employees.

Our structured approach of credible risk assessment, disciplined mitigation, comprehensive threat awareness and practiced crisis management enables us to identify critical risks and target mitigation programs at the appropriate level to avoid loss, disruption, or interruption of missioncritical activities and systems. Management and maintenance of risk mitigation and business continuity plans is an on-going task, and our manufacturing sites and critical business functions engage in an annual review and assessment of operational and natural disaster risks. That review rolls up to the Stewardship Committee for an annual review of prioritized risks and our related mitigation strategies, projects, and goals.

The following are key elements of GF's approach to business continuity:

- Global scale and operational resiliency;
- Executive stewardship and broad organizational engagement;
- Business continuity and recovery planning;
- Crisis communication and command protocols for prompt and appropriate attention to threats:
- Manufacturing operations in low risk geographies;
- Highly Protected Risk (HPR) standard for critical properties;
- World-class Environmental, Health and Safety programs support loss prevention and mitigation;
- Proactive management of supply chain risks.

### **Crisis Management**

GF is managing through the current COVID-19 crisis with an unwavering focus on two guiding principles: first and foremost, the safety and wellbeing of our employees and their families; and second, protecting our ability to deliver on our commitments to our customers. With these priorities in mind, the company has taken extraordinary steps to safeguard both its workforce and its manufacturing operations, applying and expanding on pre-crisis developed Regional and Global Epidemic and Pandemic Preparedness and Response Plans.

Our fabs continued to operate successfully throughout the crisis. GF's crisis management teams provided real-time guidance for employees in accordance with public health quidance and GF employees demonstrated their dedication to the company and our customers.





GF manufacturing continuity is also fortified by its strategic sourcing program. Even under normal operating conditions, the company maintains specified levels of "days of supply" of critical inputs to mitigate against potential or unforeseen supply disruptions. As the COVID-19 crisis continued to worsen, these efforts were amplified and the GF procurement team doubled down their efforts to secure and reroute source materials to GF fabs.

### Secure Manufacturing

GF is the only pure-play semiconductor foundry with manufacturing in the U.S., Europe and Asia (Singapore). Protection of information, data and assets is the foundation of GF's partnerships with our customers and suppliers. We offer the highest industry, customer and government criteria for secure manufacturing through our GF SHIELD program, which has established a culture of vigilant regard for an adherence to

standards and best practices in Information Security, Cyber Security, Operational Security and Product Security.

Our GF SHIELD Council and the GF SHIELD Regional Task Forces bring together expertise in information and cybersecurity, physical and product security, trade compliance, logistics, and government security programs to provide a comprehensive, globally integrated approach to security, which extends to each employee and their individual responsibilities. Annually, we conduct comprehensive security training for all employees, covering Information Security, Cyber Security, Operational Security, and Product Security.

We adhere to strict policies and procedures at all times to ensure the security of company confidential information and the confidential information of our customers and suppliers.

We pursue certification of our Security Management Systems according to international standard ISO 15408 (Information Technology— Security Techniques) where it adds additional value to our existing management systems and customers. In April 2020, Fab 1 in Dresden received certification to ISO 15408, joining our fabs in Singapore, Burlington, Vermont, and East Fishkill, New York in accreditation to the highest industry, customer and government criteria for secure manufacturing. The ISO 15408 certification allows GF fabs to produce chips for financial transactions, smart cards, digital IDs as well as other products and applications for the public sector or industries that require an extra level of security and integrity in the production process. In addition, we maintain ISO 27001 certifications for Fab 1 in Dresden and Fab 8 in Malta. We have an initial ISO 27001 site certification for Fab 7 in Singapore planned by the end of 2020.

# EMPLOYEE SAFETY AND WELL-BEING





### **OCCUPATIONAL HEALTH & SAFETY**

Protecting the occupational health, safety, and the general well-being of our employees, visitors, and communities is our greatest responsibility, one that we embrace proactively and systematically. We strive to continuously reduce occupational injuries and illnesses in all of our operations, with an ultimate goal of zero incidents.

The GLOBALFOUNDRIES Journey to Zero emphasizes that all injuries are preventable, and together we can create a culture where the expectation of zero injuries and incidents is the norm. This fundamental principle underlies our Global EHS Policy, which commits us to providing safe and healthy conditions that prevent work-related injuries and illnesses, and to the elimination of hazards and the reduction of safety risks, utilizing the principles of behavior-based safety and a hierarchy of risk-mitigation controls.

Our EHS Policy and its associated standards are the foundation of health and safety programs at each manufacturing location. The standards provide a consistent caliber of care, and set performance expectations that apply globally throughout the company. They cover a wide range of health and safety aspects, including injury and illness prevention, electrical safety, chemical safety, and industrial hygiene monitoring programs. Our enterprise-wide certification to the OHSAS 18001 health and safety management system, which is based on our EHS Policy and Standards, is available here. We have begun the transition to certification to ISO 45001, the Health and Safety Management Systems standard that will be replacing OHSAS 18001. "Consultation and Participation" is a key tenet of ISO 45001, with the intent to ensure employees are fully engaged in the health and safety management system. While GF has actively addressed this for many years through

our Safety Committees, training program and awareness initiatives, we are expanding those efforts as we continually improve our management system.

At each fab site, GF's health and safety professionals, management, and employees share responsibility for implementing the Global EHS Standards through local programs and operating procedures. Applying the behaviorbased safety approach, our programs recognize and facilitate individual safety awareness and behaviors. Communication, engagement, and training are key components to encourage safe behaviors. We provide a wide range of general and job-specific health and safety training to our employees and contractors. Health and safety professionals engage with operational personnel to analyze potential process hazards and mitigate them according to the following hierarchy of controls:

### EMPLOYEE SAFETY AND WELL-BEING



- Elimination (such as eliminating the use of a material)
- Substitution (such as replacing a hazardous process or material with a less hazardous one)
- Engineering controls (including ventilation, equipment interlocks, enclosure, segregation, etc.)
- Administrative procedures (developing procedures, implementing training, etc.)
- Personal protective equipment (to manage any residual risks, after all other controls have been implemented).

GF's EHS professionals collaborate across the disciplines of Safety, Environmental, Industrial Hygiene, and Health. Our Centers of Excellence (COEs) program drives global EHS integration to identify and implement best practices. In the areas related to occupational health and safety, the COEs have focused on developing leading metrics for early identification of potential safety risks, on monitoring and confirming the effectiveness of workplace engineering and administrative controls that limit potential exposures, and sharing best practices related to emergency response and pre-purchase evaluation of semiconductor manufacturing equipment.

### SAFETY PERFORMANCE IN THE WORKPLACE

We measure progress on the Journey to Zero with a range of metrics—both leading and lagging indicators. We evaluate all occupational injuries and illness cases to identify their root

causes and determine appropriate preventive measures and corrective actions. Case reports for occupational injuries and illnesses, along with evaluations that identify root causes and determine appropriate preventive and corrective actions, are shared across our global sites.

At the highest level, we measure our safety performance with the following lagging indicators:

- Total Recordable Injury Rate (TRIR: measuring the number of recordable injuries);
- Lost Time Injury Rate (LTIR: measuring the number of injuries that result in employees missing one or more work days after the day of injury);
- Severity Rate (SR: measuring the average number of days employees were unable to work following an occupational injury or illness that resulted in one or more days away from work).

### EMPLOYEE SAFETY AND WELL-BEING

FIGURE 2 shows GF's corporate rates from 2016 through 2019 in comparison to our 2019 goals and the 2018 U.S. Bureau of Labor injury rates for the semiconductor industry (with data for 2018 being the most recent year for which these governmental statistics are available).

FIGURE 2: GLOBALFOUNDRIES Corporate Total Recordable Injury Rate, Lost Time Injury Rate, and Severity Rate (2016-2019), as Compared to 2018 U.S. Bureau of Labor Statistics Rates for the Semiconductor Industry and GLOBALFOUNDRIES 2019 Goals



### EMPLOYEE SAFETY AND WELL-BEING



GF established 2019 goals to reduce the Injury Rates (LTIR, TRIR) and the Severity Rate (SR) by 10% below the 2018 values. Our global safety incident rates were lower than (better than) our 2019 goals and significantly lower than (better than) the 2018 U.S. Bureau of Labor Statistics (BLS) rates for the Semiconductor Industry, which is the most recent BLS dataset. Over a longer time frame, our TRIR has decreased from 0.36 in 2018 to 0.18 in 2019. The comparable 2018 U.S. TRIR for the semiconductor industry was 0.9. At the same time, our LTIR was 0.19 in 2018 and 0.09 in 2019. For comparison, the 2018 U.S. Lost Time Injury Rate was 0.2 for the semiconductor industry. Our Severity Rate

was 3.51 in 2018, and decreased to 0.99 in 2019 (there is no benchmark rate available for the severity rate from the BLS). As a result we exceeded our goals to reduce 2019 rates by at least 10% below 2018, achieving best-in-class safety performance.

While GF occupational injury and illness rates remained well below benchmarks through 2019, we continue to pursue our journey towards ZERO occupational injuries and incidents. For 2020 we are applying the same goal-setting method as in previous years: To reduce the Injury Rates (LTIR, TRIR) and the Severity Rate (SR) by an additional 10% below our 2019 value.

### **Managing Chemicals Safely**

Semiconductor manufacturing takes place in a highly controlled cleanroom environment. Equipment and chemical/gas distribution systems are completely enclosed, providing an ultra-clean manufacturing space and safe working conditions. Stringent material handling procedures include automated chemical delivery systems and sophisticated manufacturing equipment that incorporates multiple engineering controls to minimize the risk of chemical exposure for employees working in the cleanroom and chemical distribution areas. GF thoroughly reviews all new chemicals before their introduction to our sites, and ensures that proper safeguards and material handling procedures are in place. Our chemical management systems at each site provide employees with ready access to Safety Data Sheets (SDS) and identification of appropriate personal protective equipment when necessary.

### EMPLOYEE SAFETY AND WELL-BEING



### **COVID-19 Employee Protection Measures**

GF prioritizes our employees' health and safety in times of "business as usual", and especially during today's global COVID-19 crisis. Around the globe, with extensive engagement from our CEO and Senior Leadership Team, our Epidemic Management Team implemented a comprehensive series of measures to protect our employees, contractors and visitors to GF facilities.

Beginning in January 2020 we progressively implemented our Epidemic and Pandemic Preparedness Plans as the SARS-CoV-2 virus spread across multiple regions and countries. GF initiated a strict split shifts model for operational employees and a work-from-home policy for all non-fab and non-operational employees, which includes colleagues across a wide spectrum of functions. To protect employees whose work is directly related to essential production of semiconductors, and who continued to work

on-site at the fabs, GF implemented stringent site controls. These include minimizing visitors and strictly screening anyone entering a GF manufacturing facility, as well as daily temperature checks. GF also requires everyone working on-site to wear face masks—all in a continuing effort to limit the spread of the virus.

Inside our fab facilities, GF has enacted mandatory social distancing. Among these measures are capping the number of attendees at in-person meetings, reducing the seating capacity and using shift-patterns in cafeterias, mapping out the distancing intervals on the floor in certain areas, and alternating gowning rooms used by employees entering the fab cleanrooms. Some sites have been moving meetings of the operational staff, whenever possible, inside to the fab's cleanrooms, which are among the cleanest places on Earth from a contamination perspective.

By taking these measures, GF significantly reduced the number of employees who were on-site at any given time until there was sufficient improvement in regional conditions. Social distancing and other policies are helping to ensure employees who are on-site are as safe as possible so we can also keep their families and our communities safe. Throughout our response we consulted our employees. seeking their active participation in protecting themselves and others. This was accomplished through a robust set of Frequently Asked Questions, regular communications from our CEO and his leadership team, and targeted questions in our global ONEGF Survey regarding our COVID-19 response.

### EMPLOYEE SAFETY AND WELL-BEING



As regional conditions improve, GF has implemented a measured Return-to-Workplace process, including a comprehensive "Playbook" for GF employees. We continuously monitor key indicators such as case rates normalized to regional populations, testing volumes and test positivity rates, along with regional healthcare capacity. These indicators form the basis of decision-making regarding whether to increase employee populations at our manufacturing sites, or reopening smaller regional offices that we closed entirely as the pandemic escalated in early 2020. We have taken a careful approach to reopening, taking into account the cyclical nature of the pandemic and the ongoing risk of resurgence.

### **Promoting Health and Well-Being**

We place great value on our employees' overall health and wellness. Each of our manufacturing facilities has an on-site clinic and medical professionals who administer health and wellness programs in collaboration with Human Resources. Our health professionals engage globally in the Center of Excellence for Occupational Health and Employee Well-Being to share knowledge and drive continuous improvement. We encourage employees to live healthy, active lives, and provide support through services such as vaccinations, health screenings and surveillance, dietary consulting, on-site fitness facilities, first aid training, and safety tips for travelers. Annually, our facilities across the globe hold a themed "Health Day" for all employees with information campaigns and activities to further promote a healthy lifestyle.

As of today, during the global COVID-19 crisis, our health teams, in close cooperation with our HR teams, provide employees with assistance and information on how to stay healthy and well, both physically as well as mentally. This includes up-to-date tips to avoid exposure and stop the spread of COVID-19, ergonomic guidance for our employees working from home during the crisis, ideas and best practices for managing stress and enabling social connectivity while working remotely as well as fun ideas on how to keep active and work out at home.

GF has a robust Employee Assistance Program (EAP) available to all employees and their families providing confidential access to counseling on a variety of topics including personal, family, workplace, legal and finance related to mental health and well-being.



Semiconductors are vital to the technology relied upon by families, individuals, communities, governments, and businesses around the world.

With our broad range of feature-rich semiconductor solutions and our unique mix of design enablement development and manufacturing services, GLOBALFOUNDRIES enables our customers' success by providing them with the semiconductors that are supporting the world's most vital needs including healthcare, communications, and infrastructure.

### SEMICONDUCTOR SOLUTIONS COMBATING THE GLOBAL PANDEMIC CRISIS

Today, semiconductors are also a critical enabling technology for electronic components used in many medical devices, including those that are essential to combating the COVID-19 global pandemic crisis.

GF technology powers leading-edge mobile diagnostic devices which are being used by healthcare professionals to monitor patients for pneumonia and lung-related symptoms associated with COVID-19. These devices are being used by doctors and nurses to more effectively treat patients afflicted by the SARS-CoV-2 virus.

In addition, GF semiconductor technology helps power the IBM supercomputers that are at the heart of the COVID-19 High Performance

Computing Consortium. This partnership brings together U.S. government, industry, and academia to provide access to the world's most powerful high-performance computing resources in support of fighting the contagion.

Away from the front lines of the pandemic, daily life has been upended for millions of individuals and families who now find themselves working from home and engaged in online learning. More than ever before, wireless devices are playing a central role in people's lives, and GF technology is helping to make telework and remote learning possible. More than 85 percent of today's smartphones feature GF Radio Frequency (RF) technology, which also powers other wireless devices such as laptop computers and smart speakers, as well as wi-fi routers, cell towers, and countless other applications.



### **GF RF SOLUTIONS ENABLE** INTELLIGENT CONNECTIVITY

RF semiconductor solutions are key to the next generation of cellular network technology, 5G. 5G represents a fundamental shift in mobile technology. It promises exponentially faster network speeds, greater network capacity and greatly expanded connectivity, revolutionizing how people live and work.

This pervasive connectivity relies on RF integrated circuits. They enable a variety of applications: autonomous vehicles for safer transportation; greater use of augmented and virtual reality (AR/ VR) for immersive entertainment, training and more; artificial intelligence (AI) at the network edge for fast, efficient and secure local processing; vast expansion of the Internet of Things (IoT) and machine-tomachine (M2M) communications; and other services and experiences few could have imagined in earlier generations of mobile communications.

As the world's leading foundry for RF solutions, GF is uniquely positioned for this mobile transformation. We're working with industry leaders and visionaries to bring 5G communications and the applications it makes possible to life by delivering a portfolio of made-for-mobile semiconductor offerings, including FDX™ fully-depleted silicon-on-insulator (FD-SOI), RF SOI, silicon germanium (SiGe) and RF CMOS (both established planar and advanced FinFET platforms), all optimized to deliver the balance of performance, power and area benefits that meets the demands of hardware for the next leap forward in intelligent connectivity.

### DIFFERENTIATED SOLUTIONS **ENABLE ENERGY EFFICIENCY**

GF provides feature-rich solutions based on a wide range of node-based technology platforms, unique and/or best-in-class application feature sets, and thousands of titles in its intellectual property (IP) ecosystem, the combination of which enables GF to offer literally tens of thousands of different application solutions. The differentiated solutions approach also enables integration of low power consumption features with other application features, such as 5G-ready RF and mmWave capabilities, embedded non-volatile memory, high-voltage capabilities, silicon photonics, advanced packaging, and others.

Below we highlight a few key technology platforms and features driving energy-efficiency in modern electronic components and systems.



### **FinFFT**

The GF 14/12nm FinFET platform enables energy efficiency for performance-hungry applications (servers, CPUs, GPUs, and others), driving system performance within a given power envelope (i.e. increasing system performance within given power requirements).

FinFETs are three-dimensional (3D) Field-Effect Transistors that have the intrinsic capability to operate at a lower voltage, which translates to improved energy efficiency and longer battery life. This is a highly desired technology for performance-hungry mobile computing applications. GF 12LP technology, for example, can provide up to 75% higher device performance and 60% lower total power compared to 28nm technologies.

### FD-SOI Technology—22FDX® and 12FDX™ Technologies

GFs' FDX technologies are designed to span a wide range of applications where power and energy efficiency matters most.

FD-SOI technologies employ an ultra-thin oxide insulator placed on top of the base silicon. On top of this oxide insulator, a very thin silicon layer creates the transistor channel. Due to the thinness of this layer, no channel doping is required, making the transistor "fully depleted". The FD-SOI structure results in much better transistor characteristics compared to traditional bulk CMOS technology, reducing leakage current and parasitic capacitance, thus making the transistor more energy-efficient.

Making intelligent use of the generic FD-SOI features, GF's 22FDX® and 12FDX™ technologies feature significant low power, low cost and power efficiency advantages for designing differentiated solutions for mobile application processors, wireless networking, IoT and automotive markets. 22FDX® has been designed as a low-capacitance technology that allows a designer to take advantage of ultra-low operating voltages and dynamic power consumption control. A unique FDX feature enables the chip to dynamically switch back and forth between high-performance and low-power operation, i.e. to boost performance in the moment it is needed while reducing the static leakage to a minimum when the performance is not needed.



### **Embedded Memory: Embedded Magnetic** Random-Access Memory (eMRAM)

Embedded MRAM designates an embedded memory technology that uses magnetic storage elements. Consequently it does not involve electric charges or current flows, making eMRAM a very power efficient memory solution with fast access time. With its low power consumption, eMRAM is ideal for microcontroller (MCU) and IoT applications, and its fast access speed and high memory capacity makes it suitable for computing and storage applications.

GF's eMRAM is a highly versatile and robust embedded non-volatile memory, currently deployed on GF's FDX platform where it delivers a unique combination of high performance RF (radio frequency), low-power logic and integrated power management in an eMRAM solution that enables our customers to deliver a new generation of ultralow power MCUs and connected IoT applications.

### Silicon Photonics

Silicon photonics (SiPh) is a semiconductor solution that can leverage light to move more data. Therefore it is a key enabler for efficient data movement and higher energy-efficiency in applications that transport massive volumes of data, such as in data centers. SiPh optical communications chips are poised to enable new levels of performance in hyperscale data centers, cloud computing and 5G-driven network transformation. The GF SiPh foundry portfolio is designed to help customers deliver more data faster, farther and more efficiently than traditional CMOS technologies. The initial offering, 90WG, is an industryfirst SiPh foundry solution, built on a production-ready, differentiated 90nm SOI platform.

### **Advanced Packaging**

Along with energy-efficient silicon technologies, advanced packaging helps reduce power consumption, improve energy efficiency and shrink the environmental footprint of the final product.

GF advances integrated chipsets where multiple chips of different functionalities and technology nodes are closely integrated into one package either horizontally (2.5D) or vertically (3D). This approach allows for optimizing performance, energy efficiency and manufacturing cost both at the system level and for each functional unit. Our 2.5D interposer<sup>1</sup> technology offers superior flatness and fine lines with high reliability reducing the replacement need. A higher integration density with energy-efficient benefits can be achieved in 3D die stacking offered by our direct wafer-to-wafer bonding technology. To further improve energy efficient power delivery in the system, GF developed discrete and integrated power inductors of small form factor for fast switching as well as deep-trench capacitors of dense capacitance and thin profile which play a vital role for in-proximity voltage regulating of the computing unit.

he package substrate and the chips and provides high-data rate interconnects between the chips and between the chips and the package

### Mainstream energy-efficient technology platforms

Our focus on technologies that enable energy efficiency extends beyond advanced technology nodes. Many GF mainstream technology platforms feature a low power version that is optimized for power and performance, such as 28SLP/28ULP, 40LP, 55LP/55ULP.

We also offer semiconductor solutions for power-management integrated circuits (PMICs) and power converters. Our growing portfolio is continuously expanding for higher voltages. GF's Analog and Power processes include highly competitive Power FETs that enable maximum power conversion efficiency to aid in extending battery operating time. For example, GF BCDlite<sup>™</sup> and BCD technologies are developed for efficient power conversion and battery management in applications like electric vehicles

and portable devices. The ability to control, monitor and optimize battery performance for long life and safety enables widespread adoption of non-polluting transportation and lifestyle products.

### **Materials Management** and Product Compliance

GF has chemical review and approval systems in place to ensure that only approved materials are used in wafer fabrication and development of foundry modules. Our material qualification process assesses materials relative to our specification for Banned, Restricted, and Declarable Materials Management, which includes both regulatory and customer-driven requirements. We extend these requirements to our manufacturing partners that provide semiconductor foundry, assembly and test services. Applicable regulatory requirements

include the EU Directive on restricted use of certain hazardous substances in electrical and electronic equipment (RoHS Directive), its sister directives in other jurisdictions, such as China RoHS, and other legislation that regulates substances contained in products (also called "articles"). This includes the EU Regulation on Registration, Evaluation, and Authorization of Chemicals (REACH) provisions on the presence of designated Substances of Very High Concern (SVHCs). Our specifications also require packing material suppliers to meet applicable substance restrictions.

GF has programs in place to obtain analytical evidence of product compliance (such as RoHS and halogen-free requirements). We make these reports and other product compliance documentation available to our customers on our Global-FoundryView data portal.





# RESPECTFUL WORKPLACE - ENGAGEMENT, DIVERSITY AND INCLUSION

### **DIVERSITY & INCLUSION**

At GLOBALFOUNDRIES, our people embody and exemplify our company's vision and mission. GF fosters an inclusive workplace for our approximately 15,000 employees, celebrating diversity and enabling employees to learn, grow, and develop their talents. GF's diversity is the sum of each distinct individual, fueling innovation and delivering differentiated solutions and outcomes. As part of our ONEGF strategic intent, we are committed to leveraging, embracing and expanding upon the diversity and inclusion of our team as a competitive advantage in our global markets. We will achieve greater things by effectively leveraging the power of our diversity. Our values of Create, Partner, Embrace and Deliver speak to "what we do" as a company (Create & Deliver) and "how we work together" (Partner & Embrace) to enable a culture that

encourages each individual to bring their whole person with all their talent and distinctive qualities to GF. We value the diverse range of cultural values, traditions and perspectives of our global population and foster a welcoming and inviting place for ideas to flourish.

GF is proud to employ a highly diverse, multicultural workforce across our global locations. For example, more than 50 nationalities are represented in our workforce at Fab 8 in Malta, New York, while 40 nations are represented at Fab 1 in Dresden, Germany and 22 at GF Singapore. We have a zero-tolerance policy against harassment, including sexual harassment, and discrimination based on age, ancestry, color, marital status, medical condition, mental or physical disability, national origin, race, religion, political and/or third party



affiliation, sex, sexual orientation, gender identity, or veteran status. We respect the rights of employees to associate freely.

Inclusive Leadership and Cultural Agility is a key pillar of our diversity and inclusion (D&I) strategy. Inclusion at GF means everyone's contributions are welcome, all perspectives are heard and valued, and every person has a sense of belonging. We survey our workforce quarterly to keep a pulse on employee sentiment and drive actions from their feedback.



# RESPECTFUL WORKPLACE - ENGAGEMENT, DIVERSITY AND INCLUSION

The Diversity Inclusion Advocates (DIA@GF) comprises a cross section of GF executive sponsors to further embed D&I in our company mission, operations, strategies, culture and business objectives. The DIA@GF helps to formulate the D&I strategy, ensure accountability for results, provide governance and oversight on D&I efforts, and promote GF-wide communication on progress. We also collaborated with our internal L&OD team and external partners to develop a focused training program for our leadership team on cultural competency, inclusion, allyship, unconscious bias, social tolerance and equity.

GF is taking a bold approach to the recruitment, development, and advancement of women. As part of the approach, we also partner with outside organizations on differentiated development for women to prepare them for executive roles within the company and on targeted recruitment of women. An important element is to provide best-in-class family-friendly benefits. GF offers outstanding parental leave benefits in each region. Building on this foundation, in June 2020 we introduced a significant enhancement for paid parental leave, making GF an even better place for employees to build and grow their families and careers. We have increased our paid maternity leave to 20 weeks in APAC and US, so now all regions have outstanding benefits. We have also increased our parental leave in these regions.

GF is taking steps in the fight against civil unrest and racial injustice in the US. We leveraged our DIA@GF to launch a Social Justice & Equity campaign, donating \$100k to organizations supporting these causes. In addition, we hosted a CEO global all hands event to discuss the impact of racism and how to be brave, humble, and dedicated.

Employee Resource Groups (ERGs) are another supporting element of GF's D&I strategy. ERG's are voluntary, employee-led groups that foster a diverse, inclusive workplace aligned with GF's organizational mission, values, goals, business practices and objectives. At GF, the benefits of ERGs include the development of future leaders, increased employee engagement, and expanded marketplace reach.



# RESPECTFUL WORKPLACE -ENGAGEMENT, DIVERSITY AND INCLUSION

• GLOBALWOMEN (GW), GF's largest ERG, established in 2013, is an alliance of women and men whose mission is to create a sustainable framework for the professional development of women at GF, working in partnership with allies to drive initiatives that have a positive impact on our people, culture and business.

Each major GF site has an active GW chapter: Austin, TX; Santa Clara, CA; Burlington, VT; Malta, NY, and East Fishkill, NY, all U.S.; Bangalore, India; Singapore and Dresden, Germany. Each of the eight GW chapters sponsors events and activities within their regions to network and engage employees. These include networking events, mentoring events, panel discussions, professional development opportunities (such as "lunch and learn" sessions about patent writing and



In May of 2019, more than 300 women from GF locations around the globe gathered for an all day conference in Saratoga Springs, NY. The event focused on leadership, career advancement, networking, and professional development. The event's agenda included top senior female executive speakers, external speakers and company executives. Each of the speakers are highly successful in their respective fields and shared their stories of professional growth, resilience and leadership with attendees.

submission), external executive readiness programs with universities, external conference participation (including award nominations, publications, authoring papers and delivering plenary talks), attracting and recruiting top female talent into our

business, and lastly, community outreach and STEM education programs for young women. GF is a Corporate Partner Council member with the Society of Women Engineers (SWE) and participated in their We19 annual national conference in Anaheim, CA.



# RESPECTFUL WORKPLACE - ENGAGEMENT, DIVERSITY AND INCLUSION

### Other ERGs include:

- Black Resource Affinity Group (B.R.A.G) whose mission is to foster an environment that embraces diverse experiences of black employees, providing a safe place to express individualism while continuing to build an inclusive culture within GF that promotes recruitment, retention, and professional advancement of black employees.
- GlobalFamilies provides a community for employees and their families, and shares helpful resources to promote work-life balance. It focuses on growing the GF community, connecting families through outreach, providing helpful resources such as expecting parents bootcamp, and hosting special events for GF families to come together. In the fall GlobalFamilies hosts a fall festival that brings together families to celebrate Halloween.
- United States Veteran's Resource Group (VRG) builds our veteran talent pool, fosters a professional network, and supports veterans throughout the community. Their motto is SERVE: Support, Empower and Recognize Veteran Expertise.
- Early Career and Tenure Resource Group cultivates a community that welcomes employees within the first years of their career by focusing on camaraderie, career growth, and community.





# RESPECTFUL WORKPLACE -ENGAGEMENT, DIVERSITY AND INCLUSION

### WORKFORCE COMPOSITION

The composition of our global workforce by region, gender, employment type (regular/ temporary) and nature of contract (full time/ part time contracts) is presented in TABLE 2, while TABLE 3 provides an overview of the composition of our global workforce by employee category, gender, and age.

TABLE 2: GLOBALFOUNDRIES Workforce Composition by Region, Gender, Employment Type and Contract (as of December 31, 2019)

Region	All Employees		All Employees	Regular	Temporary**	Full Time	Part Time
		Male	79%*	99%	0.7%	99%	1%
U.S*	43%	Female	20%*	99%	0.9%	98%	2%
		All	99%*	99%*	1%*	98%	2%
Asia		Male	66%	99%	1%	100%	0%
Pac	36%	Female	34%	99%	0.8%	100%	0%
		All	100%	99%	0.9%	100%	0%
		Male	83%	96%	3.5%	96%	4%
<b>EMEA</b>	21%	Female	17%	95%	5%	73%	27%
		All	100%	96%	3.8%	92%	8%
		Male	75%	99%	1.4%	99%	1%
Total	100%	Female	25%	99%	1.5%	95%	5%
		All	100%	98%*	2%*	98%	2%

TABLE 3: GLOBALFOUNDRIES Workforce Composition by Gender, Employee Category and Age (as of December 31, 2019)\*\*\*

Employee Category		All Employees	All Managers	Directors and above	Vice Presidents and above	Senior Leader- ship Team*	Board of Directors*
	Male (Totals)	75%	81%	84%	82%	80%	90%
	under 30	15%	2%	0%	0%	0%	
Male (Age)	30-50	55%	58%	36%	22%	25%	
(Agu)	over 50	30%	40%	64%	78%	75%	
	Female (Totals)	25%	19%	16%	16%	20%	10%
	under 30	19%	5%	0%	0%	0%	
Female (Age)	30-50	59%	68%	57%	42%	0%	
	over 50	22%	27%	43%	58%	100%	

<sup>\* 0.8</sup> percent of U.S. employees (equals 0.4 percent of total) have not self-identified their gender

<sup>\*\*</sup> Temporary employee category includes contingent workers (equals 0.1 percent of total) as well as other employees, such as apprentices, students, and interns (equals 1.2 percent of total).

<sup>\*\*\*</sup> Numbers in Table 3 do not include temporary employees

<sup>\*</sup> Senior Leadership Team and Board of Directors composition as of September 1, 2020





# RESPECTFUL WORKPLACE - ENGAGEMENT, DIVERSITY AND INCLUSION

### **COMPENSATION & BENEFITS**

Generally, GF's Global Compensation & Benefits Strategy is to provide compliant programs which are considered competitive against current geographical and skill market norms. Our goal is to gain a balance between global standardization and local customization, while offering our employees protection and flexibility with their benefit offerings. We recognize that benefit environments vary by country, and therefore the types of benefit plans we offer reflect the prevailing local market practices and employee needs. Benefits under this strategy include healthcare, parental leave, risk benefits such as personal insurance, retirement savings, time off, educational assistance, and other location-specific benefits.

To support our employees during the global COVID-19 pandemic crisis, GF has also introduced new and enhanced benefits for all employees, to help team members remain healthy, care for family members, and face other challenges arising from the pandemic. These include emergency paid leave for employees who are unable to work on-site or remotely, and guarantine paid leave for employees who are directed to guarantine by their physician or health authority.

# **Employee Education & Training**

GF's company culture leverages the power of our people by recognizing the importance of teamwork and collaboration, increased employee engagement and empowerment.

We provide our employees with resources and courses that develop job and career skills and help people manage change. Through our global

and regional development resources our employees own their professional development, ranging from communication and leadership skills to project management and technical skill growth. We offer instructor-led courses, on-the-job training, and e-learning, including through access to an extensive third party online training platform. In 2019 the average number of training hours per employee was more than 381. We also support our employees' development through mentoring, coaching, professional certifications, and partnerships with outside organizations.

Our performance management process reflects our employees' professional development. It is designed to help employees and managers find directions through joint goal and development planning to ultimately deliver results not only for our company, but for our employees themselves.

<sup>1</sup> Instructor led and web-based training hours only, on-the job training hours are not included.





# COMMUNITY SUPPORT AND ENGAGEMENT

During this challenging time, we are as committed as ever to our GLOBALFOUNDRIES' mission, vision and values. This includes our commitment to community involvement and support for the well-established programs and teams dedicated to enriching the lives of people around the globe. This year alone, we as a global community have faced significant natural disasters, an unprecedented worldwide pandemic, and extreme examples of social injustice. As ONEGF, we not only deliver technology for humanity, but also pride ourselves in giving to and supporting the communities we call home.

It's easy to live our mission, vision and values when it's convenient to do so. Our response to the needs of those in our communities validates who we are as a company, especially in times of crises. Embracing our community is integral to our company identity, connecting our teams to global initiatives that are bigger than GF.

The following is a look back on our collective 2019 company-wide giving, a tribute to the original employee-led, grassroots efforts that have evolved into what we know today as GlobalGives. Since 2016, our GlobalGives program has become multifaceted, encompassing both employee and company-driven initiatives around STEM, philanthropy and crisis.

### GlobalGives STEM Initiative

From its inception, GlobalGives has held a special place for K-12 STEM education, providing funding across all GF locations to help foster a love of Science, Technology, Engineering and Mathematics in underserved communities across the globe. Through our GlobalGives STEM initiative, we provide experiential learning opportunities for students and teachers, facilitate curriculum development and mentoring support for early college high school programs, drive programming to encourage girls to pursue education and career paths in STEM, and offer internships, job shadowing, and employment opportunities in advanced manufacturing, among others.





# COMMUNITY SUPPORT AND ENGAGEMENT

Some of the specific programs we have created or supported include:

- GLOBALGirls, an annual summer STEM camp for middle school girls launched to inspire our next generation of female science and technology leaders and address the gender gap in manufacturing (Malta, NY; Burlington, VT)
- FIRST® (For Inspiration and Recognition of Science and Technology) Robotics programs, designed to motivate young people to pursue education and career opportunities in STEM, while building self-confidence, knowledge and life skills (Malta, NY; East Fishkill, NY; Burlington, VT)
- "Jugend Forscht" (Youth in Science) including the junior segment "Schüler Experimentieren" ("Students Experiment") Saxony, a regional competition that encourages young people with scientific and creative talents to put their ideas into practice (Dresden, Germany)
- Annual MiSci (Museum of Innovation & Science) immersive and interactive field trip for Boys & Girls Club and YMCA youth (Malta, NY)
- Ongoing STEM Science Fest events and programs serving local schools, orphanages and institutions for underprivileged children (Bangalore, India)

# **GlobalGives Philanthropy**

When it comes to philanthropy, employees in every major GF site make a difference by generously volunteering their time and donating goods and money to support a wide range of causes, helping to improve the quality of life in the communities we call home. Through our GlobalGives donation platform, GF has helped communities around the world respond to and rebuild from floods, hurricanes, wildfires and other disasters. GlobalGives has also amplified GF Singapore's annual "Hair for Hope" campaign, which has a fifteen year history of generously supporting the Children's Cancer Fund. Over the past 15 years, the campaign has raised almost \$1M in company and employee donations to help find a cure for childhood cancers and to support families affected by cancer. Additionally, GlobalGives has facilitated numerous localized campaigns, including food drives, school supplies and holiday gifts for children, and annual Earth Day volunteerism.





# COMMUNITY SUPPORT AND ENGAGEMENT

At GF, one of our core company values is "Embrace"—a reminder of the strength that comes from a culture of inclusivity, empathy and respect. In the first half of 2020, GF pledged a combined total of \$100K to the NAACP Legal Defense & Educational Fund and Race Forward nonprofit organizations to support the fight against social injustice and racial inequality.

Also in the first half of 2020, GlobalFoundries launched a matching program to better support employee philanthropic efforts across the globe, offering a 1:1 match for employee charitable contributions supported by \$500K in funding. Within a few months this decision would enable an unparalleled employee giving response in the battle against COVID-19.

## **GlobalGives COVID-19 Response**

Along with the rest of the world, GF watched the novel coronavirus as it grew into a global pandemic crisis, impacting the lives of people in every corner of the world. In addition to taking immediate, proactive measures to ensure the safety of its employees across the globe and deliver on customer commitments, GF was swift to leverage GlobalGives to respond to the needs of the people and families in our communities.

In March 2020, GF allocated over \$100K in seed funding in support of numerous campaigns, including supporting the UN Foundation COVID-19 Solidarity Response Fund for the World Health Organization, the Center for Disaster Philanthropy COVID-19 Response Fund, the Singapore National Council of Social Service Community Chest Fund, and numerous food banks across the U.S. In parallel, GF initiated

an employee-directed mask donation campaign, fulfilling over 1,700 individual requests for N95, surgical and cleanroom masks for frontline workers and at-risk friends and family members. The campaign accounted for over 85,000 of the total 130,000 masks that GF donated globally in the first half of 2020.

In early April, GF took a bold step, adding another \$1M in funding to support COVID-19 relief efforts in every GF location and to increase employee donation matching to 2:1 for the remainder of 2020. In response, employee donations surged to unprecedented levels, supporting a wide range of nonprofits across the world in their battle against the pandemic, helping first responders and those in need in every GF location. As of the first half of 2020, GF and our employees have donated approximately \$2M in the fight against this global threat.

# 09

# SUSTAINABLE MANUFACTURING



GLOBALFOUNDRIES is committed to sustainable manufacturing operations. We focus on measurable eco-efficiency, the optimization of resource use to yield products meeting stringent performance and quality criteria.

# ENVIRONMENTAL, HEALTH & SAFETY MANAGEMENT SYSTEMS

GF's Global EHS Policy and Standards are the foundation of our integrated EHS Management System. GF has achieved an enterprise-wide certification to both the ISO 14001 environmental management systems standard and the OHSAS 18001 occupational health and safety management systems standard.

# GLOBALFOUNDRIES Environmental, Health and Safety (EHS) Policy

GLOBALFOUNDRIES and its subsidiaries are committed to achieving excellence in our Environmental, Health and Safety (EHS) management systems. To do so, our leadership and employees embrace and adhere to the following principles:

# Journey to Zero

We have embarked on a journey to achieve zero occupational injuries or illnesses, and minimize environmental and climate related impacts from our operations through pollution prevention and resource conservation. Through our Journey to Zero we are committed to providing safe and healthy work conditions which prevent work-related injuries and illnesses. We are committed to the elimination of hazards and the reduction of environmental and safety risks, utilizing the principles of behavior-based safety and a hierarchy of risk-mitigation controls.

# **Continual Improvement**

We are committed to continual improvement of our EHS management systems to enhance environmental and safety performance. We collaborate with our customers, suppliers, partners, academic and governmental bodies, and industry consortia to drive EHS improvement in semiconductor manufacturing technology.

## **Beyond Compliance**

We implement consistent and rigorous EHS policies, standards and management systems supported by performance metrics, external reporting and compliance assurance. These are designed to protect the environment; to protect the safety, health and well-being of our employees, contractors and communities; and to ensure that we meet or exceed regulatory compliance obligations, customer requirements and other voluntary practices to which we subscribe.

## **Customer Focus**

As a provider of manufacturing services, we strive to enable our customers to verify that their expectations for supply chain EHS performance are met. We will measure and report relevant EHS data to our customers, allowing them to assess and reduce product life-cycle impacts.

### Consultation and Participation

We strive to build and maintain an open and productive dialogue with our stakeholders. We ensure these principles by providing appropriate EHS training, communication and engagement with our employees and contractors, enabling them to own their roles and responsibilities and participate in our EHS management systems.

# 09

# SUSTAINABLE MANUFACTURING



In addition, our fabs have either been certified under the Sony Green Partner program or maintain equivalent controls to ensure product compliance. Fab 1 (Dresden, Germany) has established an ISO 50001-certified energy management system. Our certificates are available here.

Fab 8, in Malta, New York, was designed as a "green fab." The fab and associated administrative and support buildings include many energy and water efficiency features. We measured and demonstrated our commitment to sustainable manufacturing using the "LEED® green building program" design criteria from the US Green Building Council, achieving LEED Gold® for the office buildings and LEED Silver® for the fabrication facility.

### **ECO-EFFICIENCY: OUR GOALS**

We are expanding the scope of our continuous Journey to Zero, the leading theme of our EHS Policy, beyond safety, to environmental areas with a goal to minimize environmental and climaterelated impacts from our operations through pollution prevention and resource conservation. We measure our operational EHS performance using key environmental performance indicators (KEPIs), reflecting resource consumption, environmental emissions, waste generation, and regulatory compliance. We normalize data from operations using an industry standard Manufacturing Index (MI). The MI is derived from the number of wafers manufactured, the number of masking steps in our fabrication processes (reflecting process complexity), and the total area of wafers produced. The normalized rate of a KEPI thus reflects our eco-efficiency.

Our goal setting approach identifies potential resource conservation opportunities across our manufacturing sites. We focus on projects that will drive savings and improve our normalized performance rates. using our manufacturing index to compare across technologies. For the 2018–2021 period the resulting resource conservation goals are:

# **Electricity:**

- Achieve savings in annual electricity use of 86 gigawatt hours (GWh);
- 15 percent reduction of normalized electricity consumption1;

### Water:

- Achieve savings in annual water use of 340.000 cubic meters  $(m^3)$ :
- 10 percent reduction of normalized water consumption1:

### **Greenhouse Gas Emissions:**

- · Achieve savings in annual GHG emissions of 11,900 metric tons carbon equivalent (MTCE);
- 18 percent reduction of normalized greenhouse gas emissions1;

# **Chemical Use and Waste Recycling:**

- · Achieve savings in annual chemical use and waste generation of a combined 7,100 tons;
- Recycle and reuse at least 60 percent of hazardous waste generated across the company for our 2020 operations;
- Recycle and reuse at least 75 percent of non-hazardous waste generated across the company for our 2020 operations.

As compared to 2018 baseline normalized rates

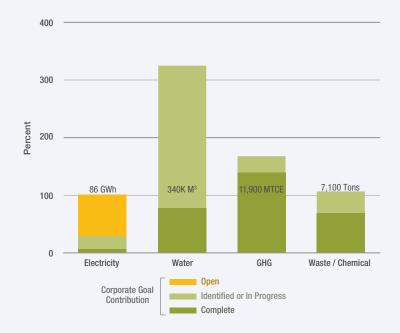


# Performance against GLOBALFOUNDRIES 2018-2021 Resource Conservation Goals

We are measuring our performance against our 2018-2021 goals in terms of the annualized reductions delivered by our resource conservation projects, through the end of calendar year 2019 (FIGURE 3).

We are on track with implementing our resource conservation projects and moving toward meeting our goals, specifically for water conservation, greenhouse gas (GHG) emission reduction and the reduction of chemical use and waste generation. By the end of 2019, we had already exceeded our targeted amount of GHG emissions reduction.

FIGURE 3. Performance against our 2018-2021 Resource Conservation Goals







Flagship resource conservation projects include:

### **Electricity:**

At our GF Singapore site, we installed rooftop photovoltaic (PV) systems to generate a portion of our electricity demand. During 2019, PV systems generated more than 2.2 GWh of renewable electricity.

In 2019, a major chiller plant optimization project was completed at our Fab 8 site in Malta NY, leading to an annual savings of more than 5.5 GWh. Facilities engineers implemented a number of measures, from resetting condenser settings to introducing new pump controls and making changes to pump sequencing.

### Water:

The Fab 8 site implemented a project in 2019 to increase the site's water reuse rate by reclaiming water from one of the site's wastewater streams. A reverse osmosis system was installed to concentrate a wastewater stream that contains hydrogen fluoride, which enables more efficient treatment at the site's wastewater treatment plant. Next to the concentrate, the reverse osmosis system also generates a permeate that meets reclaim water purity criteria. This permeate is routed to the water reclaim system that feeds into facilities systems such as cooling towers or point-of-use abatement devices, conserving more than 175,000 m<sup>3</sup> of water annually.

### **GHG Emissions:**

The GF Singapore site completed three projects in 2019 to reduce GHG emissions:

- Process chamber clean recipe optimization on a set of chemical vapor deposition (CVD) tools that are using C<sub>2</sub>F<sub>6</sub>, a perfluorocompound (PFC) gas, reducing annual GHG emissions by more than 13,000 MTCE;
- Replacement of C<sub>2</sub>F<sub>6</sub> with NF<sub>3</sub> for CVD chamber cleaning resulting in an annual GHG reduction of nearly 600 MTCE;
- Installation of rooftop solar PV (noted above), resulting in the avoidance of more than 500 MTCE annually.

At Fab 8 in Malta, GHG emissions were lowered through a partnership with GF customer Advanced Micro Devices (AMD) that granted GF Renewable Energy Credits representing 27,797 MWh of wind energy (equivalent to a Fab 8 GHG reduction of 875 MTCE).

### **Chemicals/Waste:**

At GF Dresden, a project was successfully concluded in 2019 that introduced a new internal wastewater pretreatment step to enable safe discharge of a specific wastewater stream into the municipal wastewater treatment plant. Prior to the introduction of the new treatment step, this wastewater stream was disposed off-site as waste because it included a small concentration of ingredients that inhibit communal wastewater treatment plant bacteria's activity. The project was done in cooperation with the communal wastewater treatment plant. As a result, the amount of annual waste was reduced by 3,600 tons, a volume that equals nearly six percent of 2019 total off-site waste disposal.



### **ENERGY CONSUMPTION**

FIGURE 4 shows absolute and normalized electricity consumption at our manufacturing facilities from the baseline of our previous threeyear goal period to 2019. Absolute consumption of electricity in 2019 decreased less than one percent from 2018. At the same time, normalized electricity usage increased nearly 3.5 percent in 2019 compared to 2018, reflecting a lower manufacturing index in 2019 compared to 2018.

FIGURE 4. Absolute and Normalized Electricity Use—through 2019







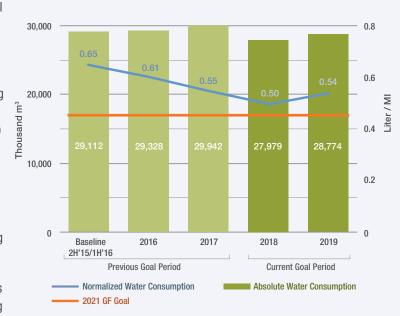
### WATER USE

FIGURE 5 shows absolute and normalized water consumption at our manufacturing facilities from the baseline of our previous three-year goal period through 2019. In 2019, absolute water consumption increased nearly three percent compared to the 2018 value. Similarly, the normalized rate of water use increased by more than six percent.

We have extensive water reclaim programs in place at our manufacturing facilities. "Reclaimed water" includes both recycled and reused water. It is used as a high-quality raw water supply to our ultra-pure water (UPW) plants (defined as "recycling") as well as for facility operations such as cooling towers and scrubbers, which can accommodate lower-quality water sources (defined as "reuse"). In 2019, we achieved a combined corporate water reclaim rate of 59 percent relative to incoming water supply, which was three percent lower than in 2018. The average water recycling rate across our fab sites was 39 percent compared to incoming water, a rate two percent lower than the preceding year.

The temporary decrease in 2019 of our water reclaim and recycling rates as well as the increase in both absolute and normalized water use during 2019 was related to a technical issue with our GF Singapore Woodlands water reclaim plant that prevented the site from using reclaimed water according to full reclaim capacity.

FIGURE 5. Absolute and Normalized Water Use—through 2019





### **GREENHOUSE GAS EMISSIONS**

Climate change is a critically important challenge impacting our global environment, human society and the global economy. GF monitors our energy consumption and greenhouse gas (GHG) emissions to understand our climate impacts. We manage our climate-related business risks by conserving energy, implementing emission controls, and participating in initiatives to drive industry-wide improvements.

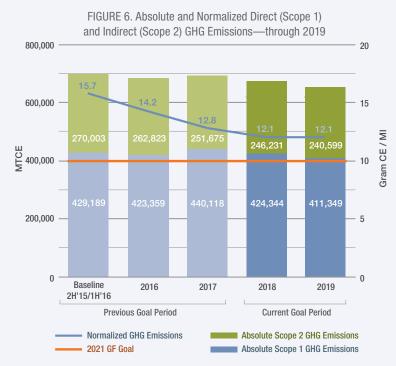
The potential business risks associated with climate change are complex, ranging from regulatory initiatives affecting energy and process materials, to severe weather events such as droughts, flooding, and extreme temperatures. Climate-related risks, including supply or operational disruptions due to severe weather events, are evaluated as part of our risk management process. We track the development of proposed climate legislation around the world and have implemented proactive measures that go well

beyond regulatory requirements, including the World Semiconductor Council's (WSC) 2020 goal to implement best practices in all new semiconductor fabs. Fab 8 in New York, which started operations in 2012, was built to meet the WSC Best Practices commitment.



<u>FIGURE 6</u> shows absolute and normalized direct (Scope 1) and indirect (Scope 2) GHG emissions from the baseline of our previous goal period through 2019.<sup>2,3</sup> Scope 1 GHG emissions are those released from from our facilities, including PFCs, N<sub>2</sub>O and fluorinated heat transfer fluids (FHTF), as well as emissions from on-site combustion of fossil fuels such as natural gas, diesel and fuel oils. Scope 2 GHG emissions are those that result from externally generated electricity that is used at GF sites. Combined Scope 1 and Scope 2 GHG emissions were nearly three percent lower in 2019 relative to 2018, with a three percent reduction in Scope 1 GHG emissions and a reduction of Scope 2 GHG emissions by more than two percent. Normalized 2019 GHG emissions remained at the same level as 2018, despite a lower manufacturing index.

- <sup>2</sup> GF quantifies GHG emissions using the following methods
- "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)";
- For semiconductor process related PFC emissions specifically GF uses Tier 2 methods of IPCC Guideline for GHG Inventories V3\_Chapt6 Electronics Industries and U.S. EPA reporting methods under Subpart I of the GHG Mandatory Reporting Rule (MRR);
- GWPs used are from IPCC Fourth Assessment Report (AR4 100 year);
- GF is using the market-based method to quantify Scope 2 GHG emissions from the "GHG Protocol Scope 2 Guidance". The market-based method reflects emissions from the electricity that a company purchases, which in some cases may be different from the electricity that is generated locally and distributed via the local grid.



<sup>&</sup>lt;sup>3</sup> Recalculations were made for both Scope 1 and Scope 2 GHG emissions. Total emissions from 2016 to 2018 were 1% – 5% higher than previously reported. For Scope 1 emissions, the recalculation resulted in 2016 to 2018 values that were 5% – 6% higher than previously reported. For Scope 2 emissions, the recalculation resulted in 2016 to 2018 values that were 0.5% – 6% lower than previously reported.

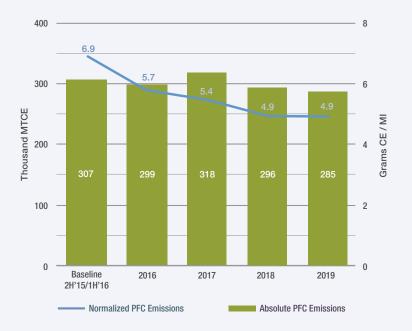
# 09



# SUSTAINABLE MANUFACTURING

FIGURE 7 shows absolute and normalized total PFC (perfluorinated compound) emissions from the baseline of our previous three-year goal period through 2019. PFC gases are used in semiconductor wafer etching and Chemical Vapor Deposition (CVD) chamber cleaning. Absolute PFC emissions decreased by nearly four percent in 2019 compared to 2018, while normalized PFC emissions remained flat in 2019 as compared to 2018. Our 300mm fabs in Dresden (Fab 1) and New York (Fabs 8 and 10) were designed to produce extremely low emissions of PFCs by using low-emission gases in CVD chamber cleaning, coupled with near-universal use of point-of-use abatement equipment for PFC-using processes.

FIGURE 7. Absolute and Normalized PFC Emissions—through 2019





### HAZARDOUS WASTE4

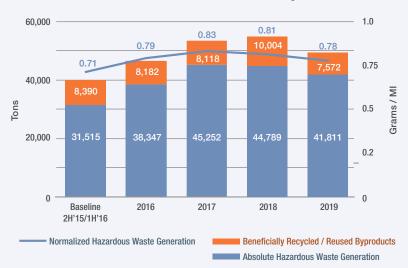
<u>FIGURE 8</u> shows absolute and normalized hazardous waste generation, as well as absolute generation of byproducts beneficially recycled and reused, from the baseline of our previous goal period through 2019.

Absolute hazardous waste generation decreased by nearly seven percent in 2019 compared to the 2018 baseline. Similarly, the normalized rate of hazardous waste generation decreased by nearly four percent. The reduction reflects the status of resource conservation projects as shown in <a href="FIGURE 3">FIGURE 3</a>. We are continuing to actively investigate ways to reduce water and chemical use to ultimately reduce hazardous waste.



We also include the category "byproducts beneficially recycled and reused", which is applicable only to our U.S. sites because reclaimed material is excluded from the U.S. EPA definition of hazardous waste.

FIGURE 8. Absolute Hazardous Waste Generation and Byproducts Beneficially Recycled and Reused Generation and Normalized Hazardous Waste Generation—through 2019<sup>5,6</sup>



<sup>6 2016</sup> to 2018 absolute and normalized hazardous waste generation numbers represent a restatement of the numbers reported in the 2019 CSR report due to a recalculation. Restated numbers are 6% lower than previously reported numbers for 2016 and 2018, and 5% higher than previously reported numbers for 2017.

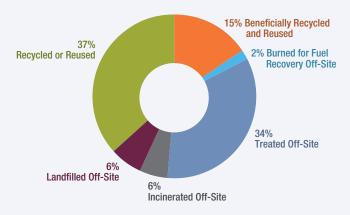




FIGURE 9 shows a breakdown of the disposal methods for hazardous waste (including byproducts beneficially recycled and reused) generated in 2019. The overall 2019 recycling and reuse rate (that combines the categories "recycled /reused" with "byproducts beneficially recycled and reused") was 52.1 percent, which was nearly eight percent below our 2019 goal to recycle and reuse at least 60 percent of hazardous waste (including beneficial recycled and reused byproducts). In 2019, 6.4 percent of total hazardous waste was sent to landfill.

One of the contributing factors affecting the waste recycling and reuse rate was the successful execution of projects to reduce the generation of hazardous waste. When the volume of a hazardous waste stream that was recycled or reused is successfully reduced at the source (a more preferable approach within the pollution prevention hierarchy), the overall recycling/reuse rate will decline. While achieving an increased recycle and reuse rate becomes more challenging as the overall volume of waste generated is being reduced, GF continues to challenge itself with a 60 percent recycling and reuse rate goal for 2020 operations. This supports additional landfill reduction initiatives within our Journey to Zero.

FIGURE 9. 2019 Disposal Methods for Hazardous Waste and Beneficially Recycled and Reused Byproducts





### NON-HAZARDOUS WASTE GENERATION

<u>FIGURE 10</u> shows absolute and normalized non-hazardous waste generation from the baseline of our previous goal period through 2019.

Absolute non-hazardous waste generation increased by 6.5 percent from 2018 to 2019, normalized non-hazardous waste generation similarly was more than ten percent higher than in 2018. Non-hazardous waste generation has increased since 2018 due to a building demolition project at our Fab 10 site in East Fishkill, NY which commenced in Q4 2018 and continued into 2019.

FIGURE 11 shows the breakdown of the disposal methods for non-hazardous waste generated in 2019. 54.1 percent of non-hazardous waste generated by GF in 2019 was recycled or reused, less than 2018, which is also related to the above mentioned building demolition project at our Fab 10 site in East Fishkill, NY which commenced in Q4 2018 and continued into 2019.

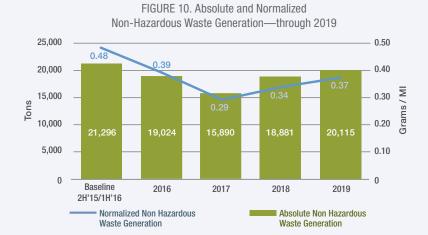


FIGURE 11. 2019 Disposal Methods for Non-Hazardous Waste

15% Treated Off-Site

6% Incinerated Off-Site

25% Landfilled Off-Site





### AIR EMISSIONS

All of our manufacturing facilities operate within air quality conditions permitted by local regulatory agencies. The primary air emissions from our facilities include corrosives (acids and bases) and volatile organic compounds (VOCs).

We employ wet scrubbers to neutralize corrosive emissions and treat the scrubber water in on-site wastewater treatment systems prior to discharge. For VOC emissions reduction, most sites use thermal oxidation or carbon bed adsorbers. Fab 1 in Dresden, Fab 8 in Malta, NY, and Fab 10 in East Fishkill, NY, have control technology that utilizes rotary concentrators followed by thermal oxidation. In 2018 our Fab 7 facility in Singapore commenced a project to install a rotary concentrator, with a planned completion in Q3 of 2020. This technology uses highly adsorbent zeolite materials to capture VOCs, which are subsequently desorbed, producing a low-volume exhaust stream with a higher concentration of VOCs. This more concentrated exhaust stream is then treated with greater efficiency through a combustion process that destroys as much as 98 percent of the VOCs.

### **EHS COMPLIANCE**

We are committed to a "Beyond Compliance" approach, seeking to exceed the requirements of applicable regulations. We implement consistent and rigorous EHS standards, management systems, metrics, external reporting, and compliance assurance programs. Our manufacturing sites perform internal reviews as part of their EHS Management Systems and are routinely inspected by regulatory authorities.

In 2019, inspections and regular compliance reporting across our global locations resulted in four notices of violation (NOVs). All issues have been resolved in communication with the respective regulatory authorities. No financial penalties were assessed for NOVs received in 2019.



As a member of the Responsible Business Alliance (RBA), GLOBALFOUNDRIES is committed to responsible sourcing practices. We progressively apply the RBA Code of Conduct to our major suppliers, and monitor its application to the best of our ability using RBA practices and tools. GF encourages and supports our suppliers to do the same in our continuous pursuit of excellence in corporate responsibility and extension of responsible practices throughout the supply chain.

Our manufacturing supply chain consists primarily of suppliers of highly specialized semiconductor manufacturing equipment and materials. We also work with suppliers of specialized business services ranging from fab design and construction to IT consulting. The majority of our manufacturing suppliers operate in the United States, Japan, Singapore, Germany and other EU countries, and Taiwan. There is also a small number of suppliers from the People's Republic of China. Due to the nature of the semiconductor business (highly

specialized materials, tools and services with relatively long qualification times), GF has developed long lasting relationships with most of its suppliers, and specifically with its most relevant suppliers.

Our requirement that suppliers conform with the RBA Code is included in our standard contract templates, Purchase Order Terms and Conditions, Global Supplier and Subcontractor Management Policy, and Material Qualification Procedure While the requirement to conform to the RBA Code is extended to all suppliers, we have implemented a supplier RBA Code conformity assessment and verification process that is directed at GF's major suppliers. The composition of the major supplier list is based on documented criteria that are related to supplier spend, supplier facility location, and nature of supplier business.

Annually, we ask our designated major suppliers to provide a signed certification acknowledging their understanding of the RBA Code and our requirement to be in conformity, along with self-assessment information using RBA questionnaires and tools (such as RBA-Online, RBA's supply chain risk assessment platform) or equivalent methods. GF applies a risk-based approach for selected major suppliers to provide evidence of RBA Code conformity, through VAP (Validated Assessment Program) audit reports or targeted document reviews performed by GF staff. Where corrective actions are identified, either in VAP audits or from GF review, we work closely with our suppliers to implement them in order to improve their business practices. To ensure that our supplier requirements are well understood within GF's Global Supply Management department, lead buyers of identified major suppliers receive training regarding the RBA Code, focused specifically on its escalation into the supply chain and our major supplier RBA Code assessment and verification process. Where applicable, the annual results of RBA Code conformity assessment and verification process are included in our Global Supplier Ratings.





In 2019 our major supplier list included approximately 60 suppliers. These include manufacturing tool suppliers, silicon wafer and specialty chemical suppliers, outsourced manufacturing—mostly outsourced test and assembly (OSAT) suppliers, labor recruitment agencies, and on-site service suppliers, such as janitorial, security and canteen services.

As shown in <u>TABLE 4</u>, within the 2019 program cycle, more than 125 self-assessment information responses were obtained from major suppliers (some provide materials to GF from multiple locations). The vast majority (90 percent) of the self-assessment information indicated a low risk for non-conformance to the RBA code. GF staff reviewed all self-assessment information and followed up with targeted document reviews, or requests for VAP audit information where self-assessments indicated a higher potential risk for non-conformity to the RBA

TABLE 4: GLOBALFOUNDRIES 2019 Supplier RBA Code Conformity Assessment and Verification Program Overview by Supplier Category

		Outsourced Manufacturing	Manufacturing Tools	Materials (Wafers, Materials, Masks)	On-Site Services	Recruitment Agencies
	RBA 2019 Site SAQs	21	27	59	1	0
	RBA 2019 Site SAQ with "Low Risk" Score	21	27	59	1	0
Self-Assessments	RBA SAQ Equivalent Information	0	0	0	14	5
	RBA SAQ Equivalent Information with "Low Risk" Score	0	0	0	3	3
Audits and Targeted Document Reviews	RBA VAP Audits	12	0	2	1	0
	GF RBA Targeted Document Review	0	0	0	11	2

Code. GF staff conducted targeted document review for eleven on-site service suppliers and for two labor recruitment agencies, all of which required implementation of some corrective actions. Of the fifteen major supplier sites that conducted VAP Audits, ten of these sites had corrective actions identified for closure within the RBA VAP process<sup>1</sup>, and corrective actions

have been closed for six of these sites. In total, at YE 2019, 17 major supplier sites / major suppliers have completed corrective actions identified in the 2019 review, while six major supplier sites were at various stages working towards closure.

GF considers VAP audits with scores of less than 180 points as needing corrective actions, confirmed through a VAP Closure Audit.





Of the RBA Code non-conformities identified. 0.5% were classified as priority non-conformities, 57% were classified as major, 42% as minor, and 0.5% as a risk of non-conformity. These findings pertained to the primary sections of the RBA Code as shown in TABLE 5.

> TABLE 5: Supply Chain RBA Non-Conformities by RBA Code Section

RBA Code Section	Percentage of Findings
A) Labor	38%
B) Health & Safety	25%
C) Environmental	10%
D) Ethics	10%
E) Management Systems	17%

The most frequently identified findings were for the following subtopics of the primary RBA Code sections:

### Labor

- Working Hours and Consecutive Days Worked (>50% of Labor findings) – These included missing policies and working hour exceedances:
- Freely Chosen Employment (~20% of Labor findings) - These included missing policies, penalties for short notice termination, mandatory overtime, and late repayment of fees or other costs that workers paid:

### **Health & Safety**

- Emergency Preparedness (~50% of Health and Safety findings);
- · Occupational Health & Safety (~17 % of Health and Safety findings) -These findings related to risk assessments or risk prevention measures;

### **Environment**

 Hazardous Substances (~42% of Environmental findings) – These findings related to storage, management, and labeling of hazardous substances, including hazardous waste.

## **Responsible Minerals Sourcing**

GF requires all materials to be sourced responsibly—this applies specifically to materials potentially sourced from conflict-affected and high risk areas. GF's Conflict Minerals Policy establishes due diligence expectations for sourcing of minerals and metals, such as tantalum, tin, tungsten and gold ("3TG") as well as cobalt. The policy specifically prohibits sourcing of 3TG metals that contributes to financing armed conflict and human rights abuses in the conflict regions of the Democratic Republic of Congo (DRC) and adjoining countries.



In the complex, multi-step silicon wafer manufacturing process, tantalum, tungsten—and in some cases, cobalt or gold—are added to achieve the desired functionalities of integrated circuits. The commodities we purchase that contain tantalum, tungsten, gold or cobalt include high-purity targets used in physical vapor deposition (PVD) and process gases and chemicals, all of which are used to deposit ultra-thin metal films onto the wafer surface. Tin and gold are used in post-wafer fab process steps, such as in interconnect materials in wafer bump or wafer packaging, and in components used for semiconductor module assembly.

GF is a member of the Responsible Minerals Initiative (RMI) and applies RMI's due diligence tools, such as the Responsible Minerals Assurance Process (RMAP) and Risk Readiness Assessment (RRA) for conflict-affected and high-risk areas. GF's goal is to maintain our

3TG DRC conflict-free supply chain—a status that we initially achieved in 2016. DRC conflictfree sourcing is defined by sourcing 3TG metals only from smelters listed as compliant by the Responsible Minerals Initiative's (RMI) Responsible Minerals Assurance Process (RMAP). Although as a privately held company, GF is not subject to the United States Securities and Exchange Commission's (SEC) Conflict Minerals Rule, we routinely provide due diligence information to support our customers' reporting needs.

To maintain our DRC conflict-free supply chain status, we manage our supply base to control all commodities containing 3TG metals. We partner with our suppliers to identify all smelters in our extended supply chain and ensure they maintain RMAP conformance. Any new commodities including 3TG metals must be sourced only from RMAP-compliant smelters.

For cobalt, we have implemented due diligence processes aligned with the RMI's Cobalt Initiative.

In 2019 GF expanded our supplier assurance processes to our extended minerals supply chain, using RMI's Risk Readiness Assessment (RRA). The RRA is a voluntary self-assesment and reporting tool that enables a better understanding of the environmental, social and human and governance risks in the minerals supply chain. It extends further upstream than the RMAP program, which focuses on smelters. GF reviews the identified risks and works with our direct suppliers to initiate risk mitigation actions in their upstream minerals supply chain. Our responsible minerals sourcing program and progress are reviewed periodically by the Stewardship Committee.



# ABOUT THIS REPORT

The GLOBALFOUNDRIES 2020 Corporate Responsibility Report is our sixth comprehensive corporate social responsibility and sustainability report. The last report was published in 2019 and covered 2018 data.

We are using the Global Reporting Initiative (GRI) G4 Sustainability Reporting Standards and self-declare that this report has been prepared in accordance with the GRI Standards: Core option.

Data presented in this report reflects calendar year 2019 where not indicated otherwise. The data were compiled from facilities owned or operated by GLOBALFOUNDRIES during the reporting period and validated using our internal processes.

We value and encourage your feedback on this report. Please send comments or questions to CSR@globalfoundries.com.





# SITE PROFILE: FAB 1 - Dresden, Germany

Wafer Size: 300mm Technology: 55nm, 45nm, 28nm, 22nm Cleanroom Area: 52,000 m<sup>2</sup> Management System Certifications: ISO 9001, IATF 16949, ISO 14001, OHSAS 18001, ISO 27001, ISO 50001, ISO 15408, Sony Green Partner

Groundbreaking for Fab 1 in Dresden took place in October 1996. The grand opening of the first production clean room followed in 1999, and the Dresden site has continued to expand ever since. In 2009, the Dresden site became the first GLOBALFOUNDRIES fab when the company was divested from Advanced Micro Devices, Inc. (AMD), With more than 52,000 square meters of cleanroom, Fab 1 is the largest semiconductor manufacturing site in Europe.

GF Dresden contributes significantly to the advancement of a leading-edge semiconductor industry in Europe, Germany, and specifically the high-tech cluster in Saxony. The region currently counts approximately 2,400 high tech companies with more than 64,000 employees.

### **COMMUNITY RELATIONS**

Located literally fence-to-fence with its neighbors in the 800-year-old villages of Wilschdorf and Boxdorf, the Dresden site participated in its first local town hall meetings back in 1996 and continues to do so today. GF Dresden supports various neighborhood associations and activities such as local heritage societies, volunteer fire brigades and choirs.

The Dresden site's Community Affairs Program has a strong focus on educational youth projects. As a leading tech company, the Dresden site is driving a considerable number of educational projects focused on STEM activities with K-12 students. Jointly with other long-term partners, GF Dresden is a sponsor of the renowned youth tech competition "Jugend forscht" ("Young Scientists").

# **COVID-19 Relief Campaign 2020**

Within the worldwide GF COVID-19 relief campaign, GF Dresden and its employees have donated €140K to organizations and associations in Saxony. Nearly €50K went to the Red Cross Saxony to set up a mobile COVID-19 test station for additional testing capacity, especially in old people's homes and nursing homes. In addition, the recipients included Bürgerstiftung Dresden, Dresdner Tafel e.V., Diakonie – Stadtmission Dresden, THW Dresden, Sonnenstrahl e.V. and arche noVa e.V.

### SUSTAINABILITY FEATURE:

### Low Greenhouse Gas Emissions

Fab 1 was designed for extremely low emissions of PFCs, which is accomplished by utilizing lowemission gases in CVD chamber cleaning, coupled with near-universal use of point-of-use abatement equipment for PFC-using processes. Highly efficient natural gas powered trigeneration plants power Fab 1, along with a small fraction of electricity from the Dresden public grid.

### **AWARDS**

- 2019 Saxony Environmental Alliance's Certificate of Recognition for environmental management measures that go beyond regulatory compliance;
- 2019 Dresden Chamber of Commerce Award for Apprenticeship Excellence.





# SITE PROFILE: Singapore - "GIGA+ FAB" (FABS 2, 3 AND 5) AND FAB 7/7G

Wafer Size: 300mm / 200mm Technology:180nm-40nm Cleanroom Area: nearly 68,000 m<sup>2</sup> Management System Certifications: ISO 9001, TS 16949, ISO 14001, OHSAS 18001, Sony Green Partner; Fab 7: ISO 15408 (Common Criteria)

GLOBALFOUNDRIES Singapore Woodlands campus is home to one 200mm "GIGA+ Fab" (Fabs 2, 3 and 5) and one 300mm Fab (Fab 7/7G). In December 2019, we transferred ownership of Fab 3E, located at the GF Singapore Tampines campus to Vanguard International Semiconductor (VIS). The history of our GIGA+ Fab goes back to 1995 when Fab 2 first started production. Our 300mm Fab 7 commenced operation in 2005, and has evolved ever since. The last significant extension was during 2016, when our former 200mm Fab 6 was converted to 300mm (Fab 7G) and merged into Fab 7. The GF Singapore fabs were previously owned by Chartered Semiconductor Manufacturing and were acquired by GF in 2010.

## **COMMUNITY RELATIONS**

Since 2006, the GF Singapore site has held an annual Hair for Hope fundraising event benefiting the Singapore Children's Cancer Foundation (CCF). GF donated a total of \$\$98,830 (U\$\$72,130) to the beneficiary in 2019 and altogether has raised more than S\$1M over the last 14 years. This signature event serves to raise funds and promote awareness of childhood cancer. GF Singapore also supports regional STEM (Science, Technology, Engineering and Mathematics) activities, providing insights into advanced technology for students from a number of tertiary institutions.

## **COVID-19 Relief Campaign 2020**

Since February, GF Singapore together with employees have generously contributed and accumulated over S\$238.000 (~US\$173.000) in both employee donations and company matching. Donations will go toward supporting and providing relief to vulnerable individuals and families, including healthcare workers, frontline workers and volunteers, affected by the COVID-19 situation. Our Singapore team also prepared and shipped a donation of 30,000 cleanroom masks. Sent from Fab 7, these masks were consolidated with Singapore's National Council of Social Services, and shared with those in need.

# SUSTAINABILITY FEATURE: **Resource Efficiency**

Resource efficiency is a priority for the Singapore team. Energy and water conservation programs are continually pursued. For example, our Singapore fabs have extensive state-of-the-art water recycling capabilities in place, and achieved a 65 percent recycling rate in 2019 as compared to incoming water supply<sup>1</sup>. Furthermore, over 95 percent of the water consumed at GF Singapore is NEWater, which is reclaimed and treated wastewater supplied by the Singapore Public Utilities Board. Using NEWater supports Singapore's water conservation strategy to reserve high-quality potable water for domestic consumption.

### **AWARDS**

- 2019 Responsible Business Alliance (RBA) VAP Audit Platinum Recognition for achieving the maximum score of 200 following closure of action items from its September 2018 VAP Audit;
- 2019 Singapore National Fire Safety Competition Silver Award in the 2019 Industrial Fire Safety Competition of the Singapore National Fire Safety and Civil Emergency Preparedness Council.

1 As per GRI 303-3 (2016) definition.





# SITE PROFILE: FAB 8 - Malta, New York, USA

Wafer Size: 300mm Technology: 14nm/12nm Cleanroom Area: 450,000 ft<sup>2</sup> (41,800 m<sup>2</sup>) Management System Certifications: ISO 9001, ISO 14001, OHSAS 18001, ISO 27001

In 2009, GLOBALFOUNDRIES broke ground for construction of the Fab 8 300mm wafer manufacturing facility in Malta, New York. Total capital investment for the Fab 8 campus now exceeds \$15B. The majority of this investment has been directed towards advanced 14/12nm technologies. With 450,000 sg. ft. of cleanroom space and continued expansion, GF's Fab 8 is one of the leaders in advanced manufacturing in the U.S. Fab 8 is a cornerstone of upstate New York's "Tech Valley" region and is the largest public-private sector industrial investment in New York state's history.

### **COMMUNITY RELATIONS:**

Next to charity donations to those in need within the local community, the site's community relations program supports numerous educational initiatives, such as FIRST® (For Inspiration and Recognition of Science and Technology) robotics programs. Together with its consortium of business partners, GF has invested over \$5M in the Saratoga County communities of Malta & Stillwater, including the

development and construction of a \$1.1M threeseason community athletic complex in the Luther Forest Technology Campus. GF Foundations in Malta & Stillwater have pledged in excess of \$1.5M to over 435 community, civic, athletic, non-profit and STEM programming organizations through 2019.

# **COVID-19 Relief Campaign 2020**

GF Fab 8 has provided economic support to many community-based health and social service organizations along with donating thousands of pieces of critically needed personal protective equipment (PPE) to hospitals, health care and emergency services organizations. Fab 8 employees generously supported the GF GlobalGives COVID-19 Campaign, contributing a total of \$120K to local organizations. GF Fab 8 also donated \$73K to support the New York State First Responders COVID-19 Fund. The GF-Town of Malta and the GF-Town of Stillwater Foundations provided a total of \$69K to organizations supporting food needs for local residents and students.

# SUSTAINABILITY FEATURES:

# **Green Building Design**

The Fab 8 campus has integrated green building principles and practices from the beginning. This includes an innovative system that uses heat recovery chillers to meet the fab's year-round base cooling load and recovers the heat for site needs instead of removing it with cooling towers. The fab was also equipped from the start with high-efficiency motors, chillers, boilers, fan filters for the cleanroom, and vacuum pumps. Fab 8 continues to optimize these features, and from 2018 to 2019 has implemented advanced heat recovery features, a project that takes advantage of free cooling, and LED light retrofitting projects.

### **AWARDS**

- 2019 New York Capital Region's Healthiest Employers Award: GF Fab 8 was among 25 companies who were honored as "healthiest employers" by the Albany Business Review;
- · Green Building: Admin 1 and Admin 2 office buildings are LEED Gold®. Fab 8.1 fabrication facility is LFFD Silver®.





# SITE PROFILE: FAB 9 – Burlington, Vermont, USA

Wafer Size: 200mm Technology: 350nm-90nm Cleanroom Area: 470,000 ft<sup>2</sup> (43,600 m<sup>2</sup>) Management System Certifications: ISO 9001, TS 16949, ISO 14001, 0HSAS 18001, Sony Green Partner

IBM broke ground on its Vermont facility located on the banks of the Winooski River near Burlington in 1957. Since then, the campus has grown and evolved into a major semiconductor manufacturing site, GLOBALFOUNDRIES acquired the site as part of the IBM Microelectronics business in 2015. GF's Fab 9 is the largest private manufacturing employer in the state of Vermont.

### **COMMUNITY RELATIONS:**

The Burlington site has an extensive history of community involvement, whether through charitable contributions or volunteering during its "Days of Caring". As part of the GF GlobalGives program, many Burlington employees volunteer with a variety of local non-profit agencies, with focuses on food stability, health services and family oriented causes. Burlington employees participate in on-site blood drives, work with the Special Olympics, and are highly involved with local cancer support agencies. Additionally, GF employees at Fab 9 support many K-12 STEM initiatives. Fab 9 hosts a GlobalGirls STEM camp for middle school students, along with volunteering and sponsorships for Odyssey of the Mind, STARBASE, and FIRST® (For Inspiration and Recognition of Science and Technology) Lego and Robotics.

# **COVID-19 Relief Campaign 2020**

As an extension of GF's corporate COVID-19 relief campaigns, Fab 9 provided support to key Vermont needs such as local food banks; and donated qualified PPE to health care sites, first responders, medical facilities, and the state's emergency operations center for those on the front lines of the pandemic. The GF Burlington site's donations included more than \$70K to the Vermont Foodbank, United Way of Northwest VT COVID-19 United Response Fund, and the University of Vermont (UVM) Medical Center COVID-19 Response Fund for first responders. Fab 9 also donated 10 Apple iPad Pro's to the UVM Medical Center to support ultrasound systems.

# SUSTAINABILITY FEATURE: Legacy of environmental excellence

Noted for its long-term environmental excellence, GF Fab 9 Burlington has received extensive recognition including numerous national, regional and state awards for its pollution prevention programs. In 2019, for the third time, GF Fab 9 was awarded with the National Pollution Prevention Roundtable (NPPR) "P2 Champion Award". The latest awarded project addressed process

and chemical optimization in chemical mechanical polish operations. The Burlington site also has a history of supporting photovoltaic development research, and in 2016, transferred unused land to Green Mountain Power to develop a 4.7 MW solar power generation facility, the state's largest at that time, providing benefits to local communities, GF and the environment.

### **AWARDS**

- 2019 Responsible Business Alliance (RBA) VAP Audit Platinum Recognition for achieving the maximum score of 200 in its 2018 VAP Audit:
- 2019 Vermont Governor's Excellence Award in Worksite Wellness - Silver level:
- National Pollution Prevention Roundtable: GF was awarded NPPR's "P2 Champion Award" in 2019 in recognition of an outstanding impact on implementing pollution prevention;
- Green Mountain Water Environmental Association Award: Fab 9 WasteWater Treatment Facility received the Outstanding Industrial Facility Award for demonstrated commitment to clean water and pollution prevention.





# SITE PROFILE: FAB 10 - East Fishkill, New York, USA

Wafer Size: 300mm Technology: 90nm–22nm Cleanroom Area: 264,080 ft² (24,530 m²)
Management System Certifications: ISO 9001, AS 9100C, ISO 14001, OHSAS 18001, Sony Green Partner

Originally developed by IBM in 1962, the East Fishkill, NY site grew and evolved into a major R&D and manufacturing center. The site joined GLOBALFOUNDRIES as part of IBM's microelectronics business acquisition in 2015 and is now known as GF Fab 10. In April 2019, GF announced the launch of its strategic partnership with ON Semiconductor, through which GF will transfer ownership of the Fab 10 facility to ON at the end of 2022.

The East Fishkill site also participates in a number of STEM activities, including DiscoverE school visits and National Manufacturing Day, on-site, where students experience STEM problem solving skills and careers. The Fab 10 team partners with local school districts on educational programming for students about the semiconductor industry, GF and STEM careers.

### **COMMUNITY RELATIONS**

East Fishkill employees have always prided themselves on being good neighbors, giving generously to the local community through charitable donations and volunteering through its "Days of Service". Each year Fab 10 employees come together for the "Bike Build Competition" for which they form teams to assemble bikes that will be donated to local children's non-profit organizations. During this event Fab 10 also collects hats, gloves and non-perishable food items to be donated to local organizations and food banks. East Fishkill employees support a "Treat the Troops" program to send homemade care packages to deployed U.S. military men and women service members.

# **COVID-19 Relief Campaign 2020**

As an extension of GF's corporate COVID-19 relief campaign, the Fab 10 team donated \$50K to Dutchess Responds, a local effort to provide critical needs such as food, medication and household essentials to individuals experiencing hardships or quarantine restrictions. In addition, East Fishkill employees donated close to \$5K through a GF charitable contribution campaign. Fab 10 also donated \$10K to the Hudson Valley Food Bank which reaches six counties in the surrounding region.

# SUSTAINABILITY FEATURES: Best in class safety performance

The Fab 10 site team exceeded their goal to reduce 2019 injury rates by at least 10% below 2018, with a best-in-class performance of zero recordable injuries in 2019. The team's success is the result of years of dedicated effort across GF to engage employees and managers in building a strong safety culture.

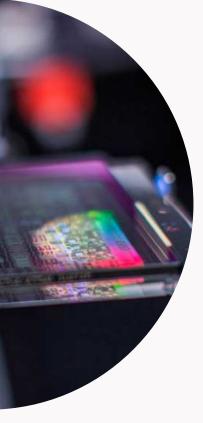
## **Recycle and Reuse**

Fab 10 produces two commercial chemical products for reutilization from the wastewaters generated by its 300mm manufacturing operations. A sulfuric acid wastewater is segregated to produce a spent sulfuric acid product and an ammonia wastewater is distilled to produce an ammonium hydroxide solution for reuse in off-site catalytic air emission abatement systems.

Groundwater treated through IBM groundwater remediation activities (approximately 25 percent of site water usage) is also reused in the production of ultra-pure water.

# 13

# GRI CONTENT INDEX



GRI Standard Title and Publication Year	GRI Standard Disclosure Number	Disclosure Title	CSR Report 2020 Section	Explanatory Comment / Direct Information	Coverage
		GENERAL [	DISCLOSURES		
	102-1	Name of the organization	Company Profile		Full
	102-10	Significant changes to the organization and its supply chain	Company Profile		Full
	102-11	Precautionary Principle or approach	Sustainable Manufacturing		Full
	102-12	External initiatives	GF Stakeholders and CSR Priorities		Full
	102-13	Membership of associations	GF Stakeholders and CSR Priorities		Full
GRI 102: General Disclosures 2016	102-14	Statement from senior decision-maker	CEO Statement		Full
	102-16	Values, principles, standards, and norms of behavior	Governance		Full
	102-17	Mechanisms for advice and concerns about ethics	Governance		Full
	102-18	Governance structure	Governance		Full
	102-19	Delegating authority	Governance		Full
	102-20	Executive-level responsibility for economic, environmental, and social topics	Governance		Full
	102-22	Composition of the highest gover- nance body and its committees	_	GF Board of Directors Members are disclosed at https://www.globalfoundries. com/about-us/leadership/board-directors	Partial

GRI Standard Title and Publication Year	GRI Standard Disclosure Number	Disclosure Title	CSR Report 2020 Section	Explanatory Comment / Direct Information	Coverage
	102-23	Chair of the highest governance body	-	Information on GF Board of Directors Members, including information on the Chair, is disclosed at https:// www.globalfoundries.com/about-us/ leadership/board-directors	Full
	102-2	Activities, brands, products, and services	Company Profile		Full
	102-3	Location of headquarters	Company Profile		Full
	102-4	Location of operations	Company Profile		Full
	102-40	List of stakeholder groups	GF Stakeholders and CSR Priorities		Full
	102-41	Collective bargaining agreements	_	None	Full
	102-42	Identifying and selecting stakeholders	GF Stakeholders and CSR Priorities		Full
GRI 102: General Disclosures 2016	102-43	Approach to stakeholder engagement	GF Stakeholders and CSR Priorities		Full
	102-44	Key topics and concerns raised	GF Stakeholders and CSR Priorities		Full
	102-45	Entities included in the consolidated financial statements	-	GLOBALFOUNDRIES is a privately held company and does not publish financial statements.	Not Disclosed
	102-46	Defining report content and topic Boundaries	GF Stakeholders and CSR Priorities		Full
	102-47	List of material topics	GF Stakeholders and CSR Priorities		Full
	102-48	Restatements of information	Sustainable Manufacturing	GHG emissions from 2016 to 2018 were recalculated. Please refer to Figure 6. Hazardous waste generation numbers from 2016 to 2018 were also recalculated. Please refer to Figure 8.	Full
	102-49	Changes in reporting	GF Stakeholders and CSR Priorities		Full

GRI Standard Title and Publication Year	GRI Standard Disclosure Number	Disclosure Title	CSR Report 2020 Section	Explanatory Comment / Direct Information	Coverage
	102-5	Ownership and legal form	_	GF is owned by Mubadala Investment Company, which is owned by the Government of Abu Dhabi.	Full
	102-50	Reporting period	About this Report		Full
	102-51	Date of most recent report	About this Report		Full
	102-52	Reporting cycle	About this Report		Full
	102-53	Contact point for questions regarding the report	About this Report		Full
GRI 102: General Disclosures 2016	102-54	Claims of reporting in accordance with the GRI Standards	About this Report		Full
Disclosures 2010	102-55	GRI content index	GRI Content Index		Full
	102-56	External assurance	-	At this time, GLOBALFOUNDRIES is not seeking external assurance for this report	Full
	102-6	Markets served	Company Profile		Full
	102-7	Scale of the organization	Company Profile		Full
	102-8	Information on employees and other workers	Respectful Workplace – Engagement, Diversity and Inclusion	We report the break down by category as percentages.	Full
	102-9	Supply chain	Responsible Sourcing		Full
		MANAGEME	NT APPROACH		
	103-1	Explanation of the material topic and its Boundary	GF Stakeholders and CSR Priorities	In subsection The Materiality Analysis	Full
GRI 103: Management Approach 2016	103-2	The management approach and its components	-	Covered in topic related report sections.	Full
	103-3	Evaluation of the man- agement approach	_	Covered in topic related report sections.	Full
		MATERIA	AL TOPICS		
Economic					
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	-	While this is a material topic, as a privately held company GLOBALFOUNDRIES does not disclose financial details.	Not disclosed



# 13



GRI Standard Title and Publication Year	GRI Standard Disclosure Number	Disclosure Title	CSR Report 2020 Section	Explanatory Comment / Direct Information	Coverage
Governance and Ethical Bus	iness				
GRI 205: Anti- corruption 2016	205-1	Operations assessed for risks related to corruption	-	In 2019, the company's Ethics & Compliance team conducted an enterprise risk assessment. The company also monitors its reporting mechanisms available to internal and external parties for corruption related matters. No significant risks related to corruption were identified.	Full
	205-2	Communication and training about anti-corruption policies and procedures	Governance		Full
GRI 412: Human Rights Assessment 2016	412-1	Operations that have been subject to human rights reviews or impact assessments	Governance		Full
ASSESSITIETIT 2016	412-2	Employee training on human rights policies or procedures	Governance		Full
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Governance; Responsible Sourcing		Full
GRI 408: Child Labor 2016	408-1	Operations and suppliers at significant risk for incidents of child labor	Governance; Responsible Sourcing		Full
GRI 409: Forced or Compulsory Labor 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Governance; Responsible Sourcing		Full
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	Responsible Sourcing		Full
GRI 414: Supplier Social	414-1	New suppliers that were screened using social criteria	Responsible Sourcing		Full
Assessment 2016	414-2	Negative social impacts in the supply chain and actions taken	Responsible Sourcing		Full
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	-	In 2019, GLOBALFOUNDRIES was not assessed any significant fines or non-monetary sanctions.	Full

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GRI Standard Title and Publication Year	GRI Standard Disclosure Number	Disclosure Title	CSR Report 2020 Section	Explanatory Comment / Direct Information	Coverage
		ENVIRO	NMENTAL		
Energy					
	302-1	Energy consumption within the organization	Sustainable Manufacturing		Full
CDI 200, Energy 2016	302-3	Energy intensity	Sustainable Manufacturing		Full
GRI 302: Energy 2016	302-4	Reduction of energy consumption	Sustainable Manufacturing		Full
	302-5	Reductions in energy require- ments of products and services	Technology Solutions for Humanity		Full
Water					
GRI 303: Water 2016	303-1	Water withdrawal by source	Sustainable Manufacturing	GLOBALFOUNDRIES uses water from municipal sources at all of our manufacturing facilities. In 2019, a portion equivalent to 6.8 percent of GLOBALFOUNDRIES total water use was withdrawn from groundwater sources.	Full
	303-3	Water recycled and reused	Sustainable Manufacturing		Full
Climate Change, GHG Emiss	sions				
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	Sustainable Manufacturing		Full
	305-2	Energy indirect (Scope 2) GHG emissions	Sustainable Manufacturing		Full
	305-4	GHG emissions intensity	Sustainable Manufacturing		Full

GRI Standard Title and Publication Year	GRI Standard Disclosure Number	Disclosure Title	CSR Report 2020 Section	Explanatory Comment / Direct Information	Coverage
Emissions, Waste, and Effluents					
GRI 305: Emissions 2016	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	Sustainable Manufacturing	Our 2019 fabs' combined corrosive emissions were approximately 90,830 kg (this value is based on air emission measurements, that are conducted annually at each fab).	Partly
GRI 306: Effluents and Waste 2016	306-1	Water discharge by quality and destination	Sustainable Manufacturing	We operate permitted wastewater treatment systems at each of our manufacturing sites to manage effluent from production areas. These facilities treat the wastewater to meet regulatory requirements prior to discharge. GF facilities discharge waste water to municipal treatment facilities, or directly to surface waters in the case of Fabs 9 and 10. The direct discharges follow a rigorous combination of industrial and biological treatment processes. In total, in 2019, we discharged 24.564 million cubic meters of treated wastewater from all manufacturing operations combined, of which 31% (7.575 million cubic meters) were discharged to surface water.	Full
	306-2	Waste by type and disposal method	Sustainable Manufacturing		Full
	306-3	Significant spills	_	None	Full
GRI: 307: Environmental Compliance 2016	307-1	Non-compliance with environ- mental laws and regulations	Sustainable Manufacturing	In 2019 GLOBALFOUNDRIES Singapore paid penalties of approximately US \$3,800 related to wastewater discharge violations in 2017.	Full



# 13



GRI Standard Title and Publication Year	GRI Standard Disclosure Number	Disclosure Title	CSR Report 2020 Section	Explanatory Comment / Direct Information	Coverage
		SOCIAL / E	MPLOYMENT		
GRI 401: Employment 2016	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Respectful Workplace – Engagement, Diversity and Inclusion		Full
GRI 403: Occupational Health and Safety 2016	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Respectful Workplace – Engagement, Diversity and Inclusion	No work-related fatalities occurred. We do not disclose by gender and region.	Partial
GRI 404: Training and	404-1	Average hours of training per year per employee	Respectful Workplace – Engagement, Diversity and Inclusion	We do not disclose by gender and employee category	Partial
Education 2016	404-2	Programs for upgrading employee skills and transition assistance programs	Respectful Workplace – Engagement, Diversity and Inclusion		Full
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	Respectful Workplace – Engagement, Diversity and Inclusion		Full
		COM	MUNITY		
GRI 203: Indirect Economic Impacts 2016	203-2	Significant indirect economic impacts	Site Profiles		Full
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	Community Outreach and Support; Site Profiles		Full

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CORPORATE RESPONSIBILITY REPORT 2020