MYCRONIC

GRI Appendix 2018

complement to the Annual and Sustainability Report





About this report

Mycronic's sustainability report for 2018 has been prepared in accordance with the GRI Standards 2016: Core option. The report has not been subject to third-party assurance.

The sustainability report is integrated with the annual report 2018 and supplemented with this Appendix. In this appendix we describe, inter alia, the reporting principles and provide in-depth GRI information and data. The scope of the sustainability report is outlined in the GRI index on pages 3–4 in this appendix. Pages 24–36 in the annual report also constitute Mycronic's statutory sustainability report, according to the Swedish Annual Accounts Act.

Mycronic reports on sustainability performance on an annual basis. This report refers to the period January 1 to December 31, 2018, i.e. Mycronic's fiscal year.

The latest report, which was the company's first report prepared in accordance with GRI Standards, covered the fiscal year 2017 and was published April 9, 2018. No changes have been made to the information supplied in the 2017 sustainability report.

Data is in most cases included for the fiscal years 2017 and 2018, however comparisons should take the following aspects into consideration. The companies acquired during 2016 and 2017, AEi, Axxon and Vi TECHNOLOGY, have been included in data where possible for 2018. Historical data for 2017 has not been recalculated. MRSI, which was acquired during 2018, has not been included in the report. MRSI will be included in the 2019 sustainability report. Further limitations in scope and omission statements according to GRI are included where relevant. Information on the accounting policies and calculation methods applied are described in connection to each disclosure presented in this GRI appendix.

In the sustainability report for 2018, Mycronic reports a change in focus areas and material sustainability topics, as shown in the following table. These topics form the basis for the content on pages 24–35 in the annual report 2018.

2017	2018
Responsible Business	Responsible Business
Business ethics	Business ethics and anti-corruption
Information security	Responsible sourcing
Economic value creation	Information security
• Human rights	
Reduced environmental impact	Reduce environmental impact
Product quality	Energy consumption
Energy efficiency	Material consumption
Climate impact	Reduced carbon dioxide emissions
Environmental risks in the supply chain	Efficient waste management
Waste management	
Attractive employer	Social responsibility
Competence development and education	Attractive employer
Work-life balance	Efficient health and safety management
Diversity and equality	Diversity and equality
Zero tolerance for discrimination	Positive contribution to local communities
Workplace health and safety	
Innovation	Enable innovation
Product development and innovation	Innovation capacity
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Innovation culture	

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GRI 102-8 Information on employees and other workers

	Asia			Europe			USA			Total	
Number of											
employees	Women, %	Men, %									
554	12	88	497	21	79	133	16	84	1,184	16	84

The following companies are included in figures above (table added to enable comparison of scale between companies which are acquired recently and the rest of Mycronic):

	AEi, Automation Engin	eering ¹⁾	Axxon ²⁾		Vi TECHNOLOGY	Total Globally			
	Number	%	Number	%	Number	%	Number	%	Number
Women	9	5	42	22	16	8	124	65	191
Men	67	7	333	34	46	5	547	52	993
Total	76	6	375	32	62	5	671	57	1,184

1) USA 2) China 3) France 4) Sweden, Japan, South Korea, China, Singapore, France, Germany, Netherlands, UK and USA

The following company is excluded from figures above:

	MRSI Systems, LLC
	USA, number
Women	10
Men	60
Total	70

Omission/Comment:

Data regarding employment contract (Permanent/ temporary or Full time/ part time) is not complete and not of adequate quality. The reason for this is the international expansion of HR routines combined with new system implementation, which has not yet been finalized.

A new HCM system has been put in place (finalized January 2019). Training and international roll-out of new routines will be performed during 2019. Complete and reliable data regarding employees according to GRI 102-8 will be available in the system by end of 2019.

GRI 102-13 Membership of associations

Mycronic has memberships in several associations. Here are some examples: the Confederation of Swedish Enterprises, The association of Swedish Engineering Industries, The Royal Academy of Engineering Sciences (IVA), Association Connecting Electronics Industries (IPC), Institute of Electrical and Electronics Engineers (IEEE), The international society for optics and photonics (SPIE), Society of Rheology (SoR), American Physical Society (APS), SMTA – Surface Mount Technology Association, and IMAPS – International Microelectronics Assembly and Packaging Society.

GRI 102-41 Collective bargaining agreements

Mycronic AB in Sweden is bound by collective bargaining agreement. Employees in Sweden, equals to 29 percent of Mycronic's total employee population.



GRI 102-44 Key topics and concerns raised

Topics discussed with stakeholders and stakeholders rating of the topics, including a consolidation to an overall rating of key topics.

Overall top-5	Top-5 according to customers	Top-5 according to capital market	Top-5 according to employees	Top-5 according to suppliers
Topics	Topics	Topics	Topics	Topics
Product quality	Product quality	Business ethics	Employment conditions	Product quality
Economic value creation	Product development & innovation	Economic value creation	Worklife balance	Product development & innovation
Product development & innovation	Economic value creation	Human rights in the supply chain	Product quality	Economic value creation
Business ethics	Business ethics	Product quality	Competence development, training and education	Business ethics
Energy efficiency	Energy efficiency	Chemical management shared fifth place with Product development & innovation	Product development & innovation	Workplace health and safety

A thorough stakeholder dialogue regarding sustainability was performed 2017 with four of the most important stakeholder categories: the capital market, the customers, the employees and the suppliers.

It was conducted through surveys, interviews and workshops.

During 2018 it was expanded to cover employees, customers and suppliers for the newly acquired companies AEi, Axxon and Vi TECHNOLOGY (which only in parts were included 2017).

The employees got the presentation of all 25 topics and were given the opportunity to vote through posters in the office and in workshops. Each employee could vote on max 7 topics. In total we received 3,532 votes.

Selected customers and suppliers were interviewed, some answered an email questionnaire and some gave their input through a web-survey.

The consolidated result including updates related to 2018 stakeholder dialogue is presented above.

For customers the topic "Business ethics" entered the list on place number 4,

moving "Energy efficiency" to place 5 and removing "Competence development and eduction" from the list.

For suppliers "Product quality" and "Product development and innovation" climbed, moving "Economic value creation" and "Business ethics" down in the list, and "Workplace health and safety" entered the list moving "Environmental risks in the supply chain" out of top-5.

There were no changes for capital market and employees.

Based on the input from the stakeholder dialogue 2017, the sustainability strategy 2018 was decided to focus on four areas: Responsible business, Reduce environmental impact, Social responsibility and Enable innovation.

In each focus area, goals and objectives were formulated and work to acheive these objectives has started.

In November 2018, management confirmed that the chosen sustainability strategy, including the four focus areas, is consistent with the input from the stakeholder dialogue.

GRI 205-3 Confirmed incidents of corruption and actions taken

Anonymous whistle blower service

Mycronic has established a whistleblower service to enable employees and external parties to report suspected breaches of the Code of Conduct.

It is handled by an external law firm where observations of conditions that violate the Code of Conduct can be reported anonymously.

During 2018 there was one report, which was thoroughly investigated by external specialists. The result from the investigation was that no violation of Code of Conduct could be proven.

There is no confirmed incident of corruption.

GRI 301-1 Material used by weight or volume

Material used by weight or volume (Tonne)	2018	2017
Metal	389	348
Composite and stone	308	280
Plastic	103	103
Electronics	86	88

Omission/Comment:

The table to the left shows the total weight of materials that are included in Mycronic's primary products.

The table includes material whose weight is more than 1 percent of the total weight of the product.

The material is from non-renewable resources.

Total weight is calculated by estimating material proportion in products, known weight of the products and multiplied by number of produced products during the year.

Due to unavailable information from international operations this data covers products manufactured in Sweden.

GRI 302-1 Energy consumption within the organization

nerav	consum	ntion	within	

the organization (MWh)	Electricity	Burning oil	Natural gas
Mycronic HQ	5,231	26	0
Subsidiaries	904	0	4.86
AEi	616	0	871
Axxon	578	0	0
Vi TECHNOLOGY	119	0	15
Total	7,448	26	891
GRAND TOTAL			8.365

Omission/Comment:

No energy is sold. Information is acquired from the suppliers.

GRI 302-2 Energy consumption outside of the organization

Energy consumption outside of the organization (MWh)	2018	2017
Pattern Generator Systems	79,400	81,850
Assembly Solution, excluding AEi, Axxon and Vi TECHNOLOGY	16,036	8,480
Aei, Axxon and Vi TECHNOLOGY	23,921	_
Total	119,357	90,330

Omission/Comment:

The total number shows the estimated and calculated energy consumption from the installed base at customers sites.

GRI 305-1 Direct (Scope 1) GHG emissions

Greenhouse gas emissions (metric tons CO₂e)	2018	2017
Scope 1, Direct GHG emissions excluding AEi, Axxon and Vi TECHNOLOGY	387	508
Scope 1, Direct GHG emissions for AEi, Axxon and Vi TECHNOLOGY	1,090	_
Total	1,477	-

Background data regarding energy and greenhouse gas emissions

The table below shows all the conversion factors used when reporting on emissions and energy consumption. No conversions are made from other greenhouse gases to CO₂e and hence there is no value for Global Warming Potential (GWP).

Activity	Activity data	Conversion factors
Other energy	AEi and Vi TECHNOLOGY uses natural gas. Mycronic in Sweden has an extra heating system using oil. The system is only used as a complement to the geothermal heating.	Conversion factors used in the calculation are taken from The UK government publication on greenhouse gas reporting conversion factors. https://www.gov.uk/government/publications/greenhouse-gas-reportingconversion-factors-2018
Company cars	Own cars, reports from internal accounting.	Almost all of the conversion factors used in the calculations are taken from The UK government publication on greenhouse gas reporting conversion factors. https://www.gov.uk/government/publications/ greenhouse-gas-reporting-conversion-factors-2018

GRI 305-2 Energy indirect (Scope 2) GHG emissions

Greenhouse gas emissions (metric tons CO₂e)	2018	2017
Scope 2, Energy indirect GHG emissions excluding AEi, Axxon and Vi TECHNOLOGY	475	578
Scope 2, Energy indirect GHG emissions for AEi, Axxon and Vi TECHNOLOGY	433	_
Total	908	_

Background data regarding energy and greenhouse gas emissions

The table below shows all the conversion factors used when reporting on emissions and energy consumption. No conversions are made from other greenhouse gases to CO_2e and hence there is no value for Global Warming Potential (GWP).

Activity	Activity data	Conversion factors
Electricity	Electricity consumption within the organization.	Most of the conversion factors were given from the local electricity suppliers. In cases where conversion factors were not provided by the electricity supplier the following method was applied; A conversion value was estimated based on the average value of all the local electricity suppliers conversion factors.

Other indirect (Scope 3) GHG emissions 305-3

Greenhouse gas emissions (metric tons CO₂e)	2018	2017
Scope 3, Other indirect GHG emissions excluding AEi, Axxon and Vi TECHNOLOGY	55,841	58,290
Scope 3, Other indirect GHG emissions for AEi, Axxon and Vi TECHNOLOGY. AEi, Axxon and Vi TECHNOLOGY is excluded		
in data regarding Emissions and Waste. Vi TECHNOLOGY is excluded in data regarding Material consumption	14,912	_
Total	70,753	-

Background data regarding energy and greenhouse gas emissions

A dominant part of Scope 3 emissions, 53,669 metric tonnes for 2018, comes from energy consumption outside of the corporation, i.e. when the products are used by

The table below shows all the conversion factors used when reporting on emissions and energy consumption. No conversions are made from other greenhouse gases to CO_2 e and hence there is no value for Global Warming Potential (GWP).

Activity	Activity data	Conversion factors
Materials	Direct material (part of Mycronic's product portfolio): For about 80 percent of total SMT products and 90 percent of sold PG systems, statistics is based on actual weight. The rest was estimated by type of materials that was being used in each product.	Almost all of the conversion factors used in the calculation is taken from The UK government publication on greenhouse gas reporting conversion factors. https://www.gov.uk/government/publications/ greenhouse-gas-reporting-conversion-factors-2018
	Packaging material: Based on information from purchased packaging material the indirect materials where estimated. About two thirds of the packaging material is indirect.	For some of the materials (e.g. stone and glass) the conversion factors are taken from Winnipeg. http://www.winnipeg.ca/finance/findata/matmgt/ documents/2012/682-2012/682-2012_Appendix_HWSTP_South_End_Plant_Process_Selection_Report/ Appendix%207.pdf
	Office material: Measured by purchased amount of print paper (2017 and 2018) and coffe (only 2018).	
Electricity	Energy consumption outside of the company, i.e. for products in use. For each type of product we have power consumption (as stated product specification/ data sheet) and we have estimated running hours per year in low energy mode (stand-by) and in high energy mode. This is multiplied by estimated number of products in use by our customers.	Most of the conversion factors were given from the local electricity suppliers. In cases where conversion factors were not provided by the electricity supplier the following method was applied. A conversion value was estimated based on the average value of all the local electricity suppliers conversion factors. This value was also used when calculating CO_2 emissions from product use.
Business travel by airplane	Reports from travel agencies and internal accounting.	Almost all of the conversion factors used in the calculations are taken from The UK government publication on greenhouse gas reporting conversion factors. https://www.gov.uk/government/publications/ greenhouse-gas-reporting-conversion-factors-2018
		The carbon footprint from business travel by flight was provided by the travel agency, who conduct their own calculations for CO_2 emissions.
Transports	Transports arranged by Mycronic: We selected the seven most important of our logistics partners, which cover 95 percent of our transports. These suppliers provided data to us. Data for the missing 5 percent were estimated. Transports arranged by suppliers: The same method was used and we reached 70 percent of the transports. Data for the missing 30 percent were estimated. A few customers arranged the transport by	Almost all of the conversion factors used in the calculation is taken from The UK government publication on greenhouse gas reporting conversion factors. https://www.gov.uk/government/publications/ greenhouse-gas-reporting-conversion-factors-2018 Exceptions were in some cases made from the UK publications when calculating the transports in Sweden. Those numbers were provided to us by the Swedish transport companies, who conduct their own calculations for ${\rm CO_2}$ emissions.
	themselves and we have no data from them. The indirect emissions were estimated using our own similar transports.	
	Data excludes AEi, Vi TECHNOLOGY and Axxon.	

GRI 306-2 Waste by type and disposal method

Hazardous waste, amount (kg)	2018	2017
Recycling	4,753	4,049
Recovery, including energy recovery	10,256	10,467
Total	15,009	14,516
Non-hazardous waste, amount (kg)	2018	2017
Reuse	14,700	36,500
Recycling	487,560	280,559
Recovery, including energy recovery	125,368	80,035
Landfill	19,650	14,106
Total	647,278	411,200

Omission/Comment:

Our assumption is that all material that can be recycled has been recycled at the end of life of old products.

Due to that information from international operations is unavailable this only covers operations in Sweden and products made in Sweden.

Information provided by the waste disposal contractor, and (for recycling at end-of-life of products) estimated number of units recycled is used together with known product content to calculate amounts.

The majority of the increase of non-hazardous waste in 2018 compared to 2017 is related to to a large renovation of the site in Sweden.

GRI 308-1 New suppliers that were screened using environmental criteria

Omission/Comment:

As of January 2019, new suppliers to the Swedish sourcing organization are initially evaluated using a supplier assessment check list. Both the supplier and Mycronic fill in the assessment questionnaire which contains questions related to for exam-

ple greenhouse gas emissions, water and electricity use, and recycling of waste. This process started recently and a percentage split of new suppliers that were screened using environmental criteria during 2018 is not available, but will be possible to present for 2019. Global approach will be outlined during 2019.

GRI 403-2

Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities

Reported Accidents	2018	2017
Women, %	7	17
Men, %	93	83
Total, number	28	6

Definitions:

- "Accident" was during 2018 defined as "Event which has or is supposed to have caused injury."
- "Incident" was during 2018 defined as "Event which could have led to an accident."
- The definitions are changed and starting 2019 the following definitions will be used:
- Incident is defined as "An unsafe occurrence arising out of or in the course of work where no personal injury is caused, or where personal injury requires only first-aid treatment."
- Occupational injury is defined as "Death, any personal injury or disease resulting from an occupational accident."
- Occupational accident is defined as "An occurrence arising out of or in the course of work which results in: (a) fatal occupational injury; (b) non-fatal occupational injury."

Omission/Comment:

During 2018 Mycronic has increased focus on health and safety reporting in Sweden. This will continue during 2019. Definitions (to the left) have been developed and the aim is to establish Group-wide definitions of categories and reporting procedures. Implementation of global tools for this purpose are under way. During 2018 the reporting in Sweden increased substantially and data quality improved, but it was not possible to collect reliable consolidated Group-wide data.

GRI 404-3 Percentage of employees receiving regular performance and career development reviews

		2018
Have completed EDP ¹⁾	Women, %	95
	Men, %	95

1) EDP = Employee Development Process

Omission/Comment:

Establishment of reporting procedures and implementation of global tools are under way, and during 2018 it was not possible to consolidate data, i.e. information was not available. Mycronic has therefore chosen to only report data for Sweden for 2018. For 2019 we will be able to track completion rates globally.

GRI 405-1 Diversity of governance bodies and employees

The tables shows the total number of employees, the Group management and the Board of Directors including employee representatives per 2018-12-31 broken down by age and gender.

Employees	Total, number	Women, %	Men, %
Total	1,184	16	84

Omission/Comment:

Information about age interval is not available. The reason for this is the international expansion of HR routines combined with new system implementation, which has not yet been finalized.

A new HCM system has been put in place (finalized January 2019).

Training and international roll-out of new routines will be performed during 2019. Complete and reliable data regarding employees according to GRI 405-1 will be available in the system by end of 2019.

Group Management	Total, number	Women, %	Men, %
under 30 years	0	-	-
30-50 years	2	0	100
over 50 years	7	57	43
Total	9	44	56
Board of Directors	Total, number	Women, %	Men, %
under 30 years	0	-	-
30-50 years	1	0	100
over 50 years	7	43	57
Total	8	38	63

GRI 413-1 Operations with local community engagement, impact assessments, and development programs

Our aim is to contribute positively to the local community.

One example is Mycronic Sweden which cooperates with the non-profit organization Hello World. Hello World arranges youth camps to introduce children to science, technology and digital art.

Sweden employs 29 percent of Mycronic's employees.

Omission/Comment:

Local communities was included as a material topic during 2018. Information about how Mycronic works on this issue globally was not available to collect during 2018 but Mycronic plans to give a global view on local community engagement in the report for 2019.

Company-specific topic: Information security

Company-specific KPI: Participation in online information security training session.

Omission/Comment:

Mycronic implemented training sessions during 2019 and hence information about results for 2018 was not available. Mycronic will report participation in online information security training sessions for 2019 in the 2019 sustainability report.

Company-specific topic: Enable Innovation Company-specific KPI: Number of patents

Company-specific KPI:	2016	2017	2018
Number of granted patents	26	19	46



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