

Mapping Research to SDG9 - Industry, Innovation and Infrastructure

Introduction

ID 1231

IMPORTANT NOTICE: We have noticed that some respondents using internet browser **Microsoft Edge** experience **issues** loading the survey correctly.

For best experience of this survey, **please use Mozilla Firefox** [[get](#) | [set as default](#)] or **Google Chrome** [[get](#) | [set as default](#)].

ID 1220

Dear colleague,

First of all a big thank you for your willingness to give your expert view on what research contributes to this important Global Goal.

What are the Sustainable Development Goals (SDGs)? Building a better Global Society

All the countries of the world, i.e. the United Nations, have set 17 Global Goals to reach by 2030. This ranges from ending poverty to equal education, from fighting climate change to building legal institutions for human rights. Progress is monitored through an agreed set of Targets and Indicators. What are Universities contributing to this progress?

Why is this survey important? Demonstrating Societal Relevance of Research

Currently research articles are labelled in research specific domains, but not mapped to topics that are relevant to society. With this survey we want to calibrate our classification model of research output to the global sustainable development goals (SDG's). Contributing to this survey will influence how your research domain is represented in this SDG.

What are we going to do with the results? Freely available globally acknowledged standard

When the survey closes the data will be used to improve and calibrate our classification scheme, with will be published online under a CC-BY license. Free for every one to use for their own purposes to classify their scientific content to the SDG's in and other system, directory or index. This classification model is a balanced keyword search with logical operators for each of the SDG's, calibrated for optimal Precision and Recall.

Eventually we can use this classification, to demonstrate the contributions universities make to societal relevant topics with their research articles. For a proof of concept see [2].

Furthermore, the data collected from this survey, can be used to build an SDG thesaurus, and to apply machine learning, to identify papers we have missed using keyword searches.

How can you help? Domain specific terms and relevance of papers

The current classification model only uses terms that are described in the policy texts of the Sustainable Development Goals. It currently is lacking domains specific terms and academic classifications to describe the research contributions in each of the sub-goals (targets and indicators). You can help by deepening the semantic structure of a concept, by adding or removing terms, and indicating which articles reflect a contribution to this specific SDG.

What will you get?

Link to the classification model for all the SDGs: When you left your e-mail address, you will get a notification as soon as the classification scheme is made freely available.

SDG Community for Researchers: You can indicate if you want to share your contact information to researchers who also filled in this survey.

Thank you very much in advance for your support!

This survey will take approximately one hour of your time, and has the following structure:

- Get familiar with this SDG (5min)
- Add Publications (10min)
- Select Publications (20min)
- Select / Add Keywords (5min)
- Add Glossary (5min)
- Select / Add Journals (5min)
- Review the Search Query (15min)
- Optional Contact Details (1min)

Kind regards,

Maurice Vanderfeesten (project leader)

on behalf of all the University Rectors/Presidents of the Aurora Universities Network

Page exit logic: Skip / Disqualify Logic

IF: Question "Want to learn more about the background of this project?" is not one of the following answers ("Yes, I want to read more background information") **THEN:** Jump to [page 3 - Familiarize yourself with this SDG](#)

LOGIC Show/hide trigger exists.

ID 1229

1. What is your role at your University? *

- ☐ Research Staff
- ☐ Support Staff
- ☐ Other - Write In

LOGIC Hidden unless: #1 Question "What is your role at your University?" is one of the following answers ("Support Staff","Other - Write In")

ID 1230

To keep the data clean, only answers from Researcher Staff are taken into account for processing the data.
You can still contribute to this survey as you like.

ID 1178

Want to learn more about the background of this project?

- ☐ Yes, I want to read more background information

ID 957

IN PARTNERSHIP WITH:



VRIJE
UNIVERSITEIT
AMSTERDAM

UNIVERSITÄT
DUISBURG
ESSEN

Offen im Denken



University of East Anglia



Wir bauen Brücken. Seit 1669



UNIVERSITÀ DEGLI
STUDI DI NAPOLI
FEDERICO II



Palacký University
Olomouc



ID 955



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

Background of the project

ID 1204



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 1221

This project and, this survey, has been approved by the rectors/presidents of the boards of the Aurora Universities Network.

[1] (Opens New Window)

The Aurora Universities Network is a University network platform for European university leaders, administrators, academics, and students to learn and cooperate from and with each other on four key priority areas - diversity and inclusion, societal impact and relevance of research (SIRR), students and innovation of teaching/learning.

[2] ([Opens New Window](#))

Societal Impact and Relevance Research (SIRR) is one of the key priority areas of Aurora. The aim of SIRR is to clarify in the Aurora network the university's role in society and its position regarding global challenges. This includes a demonstration of societal value and relevance of research and education.

[3] ([Opens New Window](#))

In the SIRR-project “**SDG-analysis: Bibliometrics of Relevance**” the AURORA Bibliometrics group has created a proof of principle (<https://bit.ly/aurora-sdg>) to demonstrate that societal value, by mapping our University's research contribution to the “Sustainable Development Goals” (SDGs) of the United Nations, and its impact on society.

[4] ([Opens New Window](#))

The **project goals**:

- identify researchers within AURORA universities interested in similar topics, and
- highlight the strengths and profile of the Aurora universities in different SDG thematic areas to potential funders, policymakers and other external collaborators and partners.

Mapping Method: To this end, the project has matched peer reviewed publications within each of the 17 SDG's, using reviewed queries in the citation database Scopus.

Your contributions for improvement: To improve the underlying query-model, you and other experts on this societal topic have been requested , to review the outcomes of a query for this specific SDG. This group can form an interdisciplinary expert panel around this SDG, with other inside the university, but also inside the Aurora Universities Network.

Review content: A survey has been prepared containing different representations of the output of the current query representing this SDG. This representation contains:

- random sample of 100 publications found when searching for this SDG using keywords combinations.
- 100 keywords that occur the most in the publications found
- 100 journals that occur the most in the publications found
- Query pieces per Target (with Indicators) of the SDG
- Additionally we as for a glossary and a list of publications you find relevant.

Your reviewing activities would be:

- Delete those entries from the lists above that are not relevant for this SDG.
- Add/change entries to the lists above. Expected workload (within the next two or three months):

Estimated is approximately 1 hour.

AURORA Bibliometrics

The AURORA Bibliometrics group primary objectives, which fall within SIRR are;

- i) exchange information, experience and best practices on working with existing Clarivate & Elsevier databases/tools to see how they can feed into universities' policymaking decisions.
- ii) collaborate closely with the AURORA SIRR working group on describing and measuring societal impact of AURORA universities through the development of a comprehensive benchmarking tool containing a clear set of key performance indicators corresponding to universities' and AURORA's visions and policy goals.
- iii) collaborate closely with the AURORA SIRR working group on the challenges of Open Science, including but not limited to research data management (open data).
- iv) to provide insights into the strengths of potential research collaborations between its members and with industrial partners through in-depth bibliometric analyses.

Familiarize yourself with this SDG

Page exit logic: Skip / Disqualify Logic

IF: #2 Question "Have you familiarized yourself with this SDG?" is one of the following answers ("No") **THEN:** Disqualify and display:
Sorry, you do not qualify to take this survey. To restart the survey, please reload this page.

ID 1205



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 1222

All the nations worldwide have agreed to reach 17 global goals by the year 2030. Your research might have contributed to reach those goals. In order to measure the progress of those goals, the United Nations have agreed to a number of Targets and Indicators.

We would like you to familiarize yourself to the concepts of the **Targets and Indicators** of this Goal.

Please visit the following webpage to read the introduction of this Goal (in the 2016 tab), to and the tab **Targets and Indicators**:

ID 960

<https://sustainabledevelopment.un.org/sdg9> (Opens New Window)

ID 961

Goal 9 encompasses three important aspects of sustainable development: infrastructure, industrialization and innovation. Infrastructure provides the basic physical systems and structures essential to the operation of a society or enterprise. Industrialization drives economic growth, creates job opportunities and thereby reduces income poverty. Innovation advances the technological capabilities of industrial sectors and prompts the development of new skills.

LOGIC Show/hide trigger exists.

ID 1121

2. Have you familiarized yourself with this SDG? *

- ☐ Yes
- ☐ No
-

LOGIC Hidden unless: #2 Question "Have you familiarized yourself with this SDG?" is one of the following answers ("No")

ID 1223

You have indicated you are unfamiliar with this SDG.
For quality assurance reasons on the collected data, we cannot let you continue.

Please familiarize yourself by:

- 1. clicking the link above
- 2. reading the information on the Targets and Indicators tab
- 3. while reading, think of the research papers that might fit on these targets
- 4. continue with the survey, by selecting Yes

List Publications Contributing to this SDG (for measuring Recall)

ID 1206



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 964

The purpose of this question is to test our current classification model.

On this page we want you to list all the relevant research papers you can think of that might contribute to one of the targets and indicators described in this goal.

This can be your own papers, from your direct colleagues, or researchers outside your University.

You can do this by uploading a file with a selection of papers from your reference manager, OR start typing / copy-paste from a list in the blank area below.

Background

The papers from all our respondents will be used to calculate the "recall" of our current classification model, and use the metadata to improve the classification model to increase the "recall", without diminishing the "precision". [read more]

VALIDATION Accepts 1 file. **Allowed types:** ris, bibtex, txt, csv, xlsx, doc, docx. Max file size: 10 MB

ID 963

3. If you have a reference manager, you can export and upload a list of publications here. (file formats .RIS, . BibTex, .txt ,etc.)

Browse...

ID 965

OR

ID 844

4. Type or copy/paste a list of all research articles you can think of that contribute to this SDG.

(One article per new line. Articles should contain title, authors, year. Additionally journal and doi. In the citation format of your preference.)

Select Publications Contributing to this SDG (for measuring Precision)

ID 1207



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 967

The purpose of this question is to test our current classification model.

In the current classification model, we have found 155.673 research papers worldwide in the Scopus database (between 2010 and 2018) for this SDG.

We have randomly selected a sample of **100** publications from that list.

In order for us to measure the Precision of the classification model, we need you to let us know what papers are according to your opinion 'true' and 'false' positives.

5. Is this publication contributing to this SDG?

Go quickly through this list, and give your first thought based on the information available (title, authors and journal). Complete as many publications you feel up to. Leave an answer blank if you don't know. Answer "Yes" if you have the impression this publication contributes to this SDG. Answer "No" if this publication is totally not related to this SDG.

(Please wait a few seconds before the entries below are fully loaded.)

	Is this publication contributing to this SDG?		
	Yes, contributes to this SDG	No, is not relevant to this SDG	
1	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
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99	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
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Action: JavaScript

New JavaScript

Good job! Break

Page exit logic: Skip / Disqualify Logic

IF: #6 Question "Do you want to help us out even further?" is one of the following answers ("No (skip to last question)") **THEN:** Jump to [page 12 - Keep in touch?](#)

ID 1208



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 1228

You're on your way! You can stop and submit the survey now. Or you can help us out even further, and continue with the next set of questions.

- Add Publications (10min)
 - Select Publications (20min)
 - ***YOU ARE THERE: 1st break***
 - Select / Add Keywords (5min)
 - Add Glossary (5min)
 - Select / Add Journals (5min)
 - ***2nd break***
 - Review the Search Query (15min)
 - Optional Contact Details (1min)
-

ID 1105

6. Do you want to help us out even further? *

- ☐ Yes (continues to next set of questions)
 - ☐ No (skip to last question)
-

Select Keywords that Relate to this SDG

ID 1209



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 1094

The purpose of this question is that we get suggestions to use in a new classification model.

Below you'll find a alphabetically sorted list of most frequent keywords. These keywords were most frequently attributed in the metadata of the publications we found for this SDG. That can be keywords we have not been using in the search query, but can be helpful in finding more relevant articles that fit this SDG.

ID 1216

7. Select the keywords you think are **specific** enough to find more research articles related to this SDG.

(please select or add specific terms, do not generic terms. eg. "depression" is a generic term, since it can appear in articles related to psychology as well as meteorology.)

<input type="checkbox"/> 1	<input type="checkbox"/> 26	<input type="checkbox"/> 51	<input type="checkbox"/> 76
<input type="checkbox"/> 2	<input type="checkbox"/> 27	<input type="checkbox"/> 52	<input type="checkbox"/> 77
<input type="checkbox"/> 3	<input type="checkbox"/> 28	<input type="checkbox"/> 53	<input type="checkbox"/> 78
<input type="checkbox"/> 4	<input type="checkbox"/> 29	<input type="checkbox"/> 54	<input type="checkbox"/> 79
<input type="checkbox"/> 5	<input type="checkbox"/> 30	<input type="checkbox"/> 55	<input type="checkbox"/> 80
<input type="checkbox"/> 6	<input type="checkbox"/> 31	<input type="checkbox"/> 56	<input type="checkbox"/> 81
<input type="checkbox"/> 7	<input type="checkbox"/> 32	<input type="checkbox"/> 57	<input type="checkbox"/> 82
<input type="checkbox"/> 8	<input type="checkbox"/> 33	<input type="checkbox"/> 58	<input type="checkbox"/> 83
<input type="checkbox"/> 9	<input type="checkbox"/> 34	<input type="checkbox"/> 59	<input type="checkbox"/> 84
<input type="checkbox"/> 10	<input type="checkbox"/> 35	<input type="checkbox"/> 60	<input type="checkbox"/> 85
<input type="checkbox"/> 11	<input type="checkbox"/> 36	<input type="checkbox"/> 61	<input type="checkbox"/> 86
<input type="checkbox"/> 12	<input type="checkbox"/> 37	<input type="checkbox"/> 62	<input type="checkbox"/> 87
<input type="checkbox"/> 13	<input type="checkbox"/> 38	<input type="checkbox"/> 63	<input type="checkbox"/> 88
<input type="checkbox"/> 14	<input type="checkbox"/> 39	<input type="checkbox"/> 64	<input type="checkbox"/> 89
<input type="checkbox"/> 15	<input type="checkbox"/> 40	<input type="checkbox"/> 65	<input type="checkbox"/> 90



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100

Action: JavaScript

New JavaScript

ID 1124

8. Add more keyword combinations that are relevant to this SDG.
(please use a new line per keyword combination)

Glossary with terms related to this SDG

ID 1210



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 1103

The purpose of this question is that we get suggestions to use in a new classification model.

ID 1097

Please provide a URL / Link / Web address to comprehensive list of terms, concepts, glossary or thesaurus that described your research field in full detail, and is relevant to this SDG.

[example of a useful glossary on SDG 15 - Life on land] (Opens in New Window)

ID 740

9. Please provide the URL to a SDG specific Glossary containing in-depth academic terms.

URL to Glossary

http://

URL to Glossary

http://

Select the Journals that are fully related to this SDG (or one of the targets)

ID 1211



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 1098

The purpose of this question is that we get suggestions to use in a new classification model.

Below you'll find a alphabetically sorted list of most frequent journals. These journals were most frequently attributed in the metadata of the publications we found for this SDG.

You might recognize one or more of these journals.

Please select (or add in the Other field) the journals, that you know, mostly contain articles relevant to this SDG.

We can use these journals to add additional articles to the search result for this SDG

ID 1218

10. Do you recognise this journal to be representing this SDG?

☐ 1

☐ 26

☐ 51

☐ 76

<input type="checkbox"/> 2	<input type="checkbox"/> 27	<input type="checkbox"/> 52	<input type="checkbox"/> 77
<input type="checkbox"/> 3	<input type="checkbox"/> 28	<input type="checkbox"/> 53	<input type="checkbox"/> 78
<input type="checkbox"/> 4	<input type="checkbox"/> 29	<input type="checkbox"/> 54	<input type="checkbox"/> 79
<input type="checkbox"/> 5	<input type="checkbox"/> 30	<input type="checkbox"/> 55	<input type="checkbox"/> 80
<input type="checkbox"/> 6	<input type="checkbox"/> 31	<input type="checkbox"/> 56	<input type="checkbox"/> 81
<input type="checkbox"/> 7	<input type="checkbox"/> 32	<input type="checkbox"/> 57	<input type="checkbox"/> 82
<input type="checkbox"/> 8	<input type="checkbox"/> 33	<input type="checkbox"/> 58	<input type="checkbox"/> 83
<input type="checkbox"/> 9	<input type="checkbox"/> 34	<input type="checkbox"/> 59	<input type="checkbox"/> 84
<input type="checkbox"/> 10	<input type="checkbox"/> 35	<input type="checkbox"/> 60	<input type="checkbox"/> 85
<input type="checkbox"/> 11	<input type="checkbox"/> 36	<input type="checkbox"/> 61	<input type="checkbox"/> 86
<input type="checkbox"/> 12	<input type="checkbox"/> 37	<input type="checkbox"/> 62	<input type="checkbox"/> 87
<input type="checkbox"/> 13	<input type="checkbox"/> 38	<input type="checkbox"/> 63	<input type="checkbox"/> 88
<input type="checkbox"/> 14	<input type="checkbox"/> 39	<input type="checkbox"/> 64	<input type="checkbox"/> 89
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<input type="checkbox"/> 19	<input type="checkbox"/> 44	<input type="checkbox"/> 69	<input type="checkbox"/> 94
<input type="checkbox"/> 20	<input type="checkbox"/> 45	<input type="checkbox"/> 70	<input type="checkbox"/> 95
<input type="checkbox"/> 21	<input type="checkbox"/> 46	<input type="checkbox"/> 71	<input type="checkbox"/> 96
<input type="checkbox"/> 22	<input type="checkbox"/> 47	<input type="checkbox"/> 72	<input type="checkbox"/> 97
<input type="checkbox"/> 23	<input type="checkbox"/> 48	<input type="checkbox"/> 73	<input type="checkbox"/> 98

☐ 24☐ 49☐ 74☐ 99☐ 25☐ 50☐ 75☐ 100

Action: JavaScript

New JavaScript

ID 1125

11. Add more Journals that are relevant to this SDG.

Please use a new line per Journal. If you have an ISSN available, that would be great to add.

example:

Frontiers in Ecology and the Environment, ISSN: 1540-9295 (1540-9309)

Good job! 2nd break

Page exit logic: Skip / Disqualify Logic

IF: #6 Question "Do you want to help us out even further?" is one of the following answers ("No (skip to last question)") **THEN:** Jump to [page 12 - Keep in touch?](#)

ID 1212



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 1137

You're almost there. You can stop and submit the survey now. Or you can help us out even further, and continue with the next set of questions.

- Add Publications (10min)
 - Select Publications (20min)
 - **1st break**
 - Select / Add Keywords (5min)
 - Add Glossary (5min)
 - Select / Add Journals (5min)
 - **YOU ARE THERE: 2nd break**
 - Review the Search Query (15min)
 - Optional Contact Details (1min)
-

ID 1138

12. Do you want to help us out even further? *

- ☐ Yes (continues to next set of questions)
 - ☐ No (skip to last question)
-

Add Terminology to Search Queries

ID 1213

This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 970

The purpose of this question is that we get suggestions to use in a new classification model.

Below you can see the Targets with the Indicators, defined by the United Nations, for this SDG.

Alongside each Target we show you the keyword searches with the logical operators we have used to create the query for this SDG.

The queries are build by bibliometricians who do not possess the domain knowledge of your research field. The keyword searchers therefore are stuck to the basic high-level layman terms, but lack the deeper level concepts academics use in their titles and abstracts.

You can help us to add more domain specific terms, synonyms and antonyms, for each Target you feel most related to.

Observations about and technicalities on the search queries

- Indexed metadata: the keyword searches apply only to title, abstract and keywords of each publication in the Scopus index. It is not applied to the full text.
- Concept Synonyms and Anthonyms: Each term-group (... OR ...) contains synonyms and anthonyms of the concept we try to find. example: (deaths OR mortality) or ("gender disparity" OR "gender parity")
- Term-co-occurrences: As you can see most of the the keyword searches are a combination of two co-occurring term-groups. (... OR ...) AND (... OR ...). Example: (deaths OR mortality) AND ("air pollution")
We combine the term-groups to get a result set of publications that is more precise, than using a list of keywords only. Using only keywords increases the yield, but also blurs the lines with the other SDG searches.
- Distance: Sometimes the AND is replaced by a W/3. This indicates that the term-groups should only appear within 3 word-distances.
- Wildcards: a ? is use to solve UK and US differences. (organization OR organisation) becomes (organi?ation). A * is used in word-stemming (sustainable OR sustainability) becomes (sustainab*)
- Some parts are blank because the UN added more targets over the years, or we simply lacked the expertise to find the right terms.

ID 1224

Search Query: SDG-09 industry, innovation and infrastructure

<https://sustainabledevelopment.un.org/sdg9>

The queries below (keyword combinations, wildcards, logical operators) fall under the Creative Commons License Attribution-NonCommercial-ShareAlike
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Last updated: 2019-08-21

Targets and Indicators		Query part	
	QUERY HEADER -->	TITLE-ABS-KEY(
9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all 9.1.1 Proportion of the rural population who live within 2 km of an all-season road 9.1.2 Passenger and freight volumes, by mode of transport		(((quality OR reliab* OR sustainab* OR resilient) AND (infrastructure OR "regional infrastructure" OR "transborder infrastructure")) OR (("economic development" OR "human well- being") AND (((afford* OR equitable))

		<div>AND access</div> <div>)</div> <div>OR innovat*</div> <div>)</div> <div>)</div> <div>OR (Proportion</div> <div>AND "rural</div> <div>population"</div> <div>AND "within 2 km"</div> <div>AND "all-season</div> <div>road"</div> <div>)</div> <div>OR (Passenger*</div> <div>AND freight</div> <div>AND volume*</div> <div>AND "mode of</div> <div>transport"</div> <div>)</div>	
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<p>9.2</p> <p>Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry’s share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries</p> <p>9.2.1</p> <p>Manufacturing value added as a proportion of GDP and per capita</p> <p>9.2.2</p> <p>Manufacturing employment as a proportion of total employment</p>	<p>OR (</p> <p>((includi* OR sustainab*) AND industr*)</p> <p>OR (("share of employment" OR "gross domestic product") AND industr*)</p> <p>OR (Manufactur* AND value AND "GDP and per capita")</p> <p>OR (Manufactur* AND employment AND proportion AND "total employment")</p>)
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9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets 9.3.1 Proportion of small-scale industries in total industry value added 9.3.2 Proportion of small-scale industries with a loan or line of credit	OR ((access AND ("financial servic*" OR "credit" OR "value chain*" OR market*) AND (industr* OR enterprise*)) OR (Proportion AND "small-scale" AND industr* AND "total industry value") OR (Proportion AND "small-scale" AND industr* AND ("loan" OR "line of credit")))
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<p>9.4</p> <p>By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities</p> <p>9.4.1</p> <p>CO2 emission per unit of value added</p>	<p>OR ((((upgrade AND infrastrucur*) OR (retrofit AND industr*)) AND (sustainab*))</p> <p>OR (((increase* AND "resource-use efficiency") OR (clean OR "environmentally sound")) AND (technolog* OR industr*))</p> <p>OR ("CO2 emission" AND "per unit of value")</p>
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<p>9.5</p> <p>Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending</p> <p>9.5.1</p> <p>Research and development expenditure as a proportion of GDP</p> <p>9.5.2</p> <p>Researchers (in full-time equivalent) per million inhabitants</p>	<p>OR (</p> <p>(enhance AND scien* AND research AND "developing countries")</p> <p>OR (upgrade AND "technological capabilities" AND "developing countries")</p> <p>OR "encouraging innovation"</p> <p>OR ((Research OR development) AND expenditure AND "proportion of GDP")</p> <p>OR (Researcher* AND "full-time equivalent" AND inhabitants)</p> <p>)</p>	
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<p>9.a</p> <p>Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States</p> <p>9.a.1</p> <p>Total official international support (official development assistance plus other official flows) to infrastructure</p>	<p>OR (((sustainable OR resilient) AND infrastruc* AND develop*) OR ("international support" AND (official* AND ("development assistance" OR flow*)) AND infrastructure*))</p>
<p>9.b</p> <p>Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities</p> <p>9.b.1</p> <p>Proportion of medium and high-tech industry value added in total value added</p>	<p>OR (("domestic technology development") OR (support* AND (research OR innovation) AND "developing countries") OR (Proportion AND (medium OR high-tech) AND industr* AND "value added"))</p>

<p>9.c</p> <p>Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020</p> <p>9.c.1</p> <p>Proportion of population covered by a mobile network, by technology</p>	OR ((access AND (internet OR inform* OR (communication AND technolog*)) AND develop*) OR (Proportion AND population AND mobile AND network* AND technolog*))
QUERY FOOTER -->)	AND (PUBYEAR < 2019 AND PUBYEAR > 2009)	

ID 1225

13. Select the Number or Letter of the Target you want to adjust the keyword search for, and add the necessary changes.

Add academic terms, synonyms and antonyms to find papers related to the selected Target(s).
Use wildcards and logical operators (AND, OR, W/3) where you see fit. (see explanation above)

	Select SDG Target to adjust	Add changes to the keyword search for this SDG
9.1	<input type="checkbox"/>	<div></div>
		<div></div>

9.2



9.3



9.4



9.5



9.a



9.b

☐

9.c

☐

Keep in touch?

ID 1214



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

Page exit logic: Skip / Disqualify Logic

IF: #14 Question "Keep in touch?" is not one of the following answers ("I am interested in an update of this project", "I want to share my e-mail address to other respondents of this SDG") **THEN:** Jump to [page 14 - Thank You!](#)

ID 1108

This survey is anonymous, any personal details that you provide will only be used for the stated purposes. Personal information will not be included in the survey analysis.

If you want to receive updates on this project or share your e-mail address with other researchers to create a like-minded SDG Researchers Community, you can do so by leaving your e-mail-address on the next page. If not, just leave the check boxes blank.

ID 1101

14. Keep in touch?

- ☐ I am interested in an update of this project
- ☐ I want to share my e-mail address to other respondents of this SDG

Personalia

ID 1215



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 1114

You have indicated you want to receive updates on this project, or share your e-mail address with other researchers to create a like-minded SDG Researchers Community You can do so by leaving your contact details below.

This survey is anonymous, any personal details that you provide will only be used for the stated purposes. Personal information will not be included in the survey analysis.

VALIDATION %s format expected

ID 1111

15. What is your e-mail address?

ID 1112

16. If you want to stay in touch with the other respondents of this SDG, you might like to tell them a bit more about yourself.

Name

University

Country

Department

Position

Thank You!

ID 1203



This Survey is specifically about SDG 9 - Industry, Innovation and Infrastructure

ID 1

Thank you for taking our survey.

Your response is very important for us to map the most relevant research to this SDG.

ID 1172



ID 1173

Below you see the proof-of-concept that will demonstrate, based on our current classification model, the combination of "Societal Impact" and "Excellence" of Research Relevant to the SDG's.

This is dashboard contains interactive graphs. Go ahead and click on filters, graph parts and navigation arrows to change the perspectives.

ID 1115

ID 1116

For more information about the project, please go to <https://bit.ly/aurora-sdg> (opens in new window)
