Times Higher Education
Sustainability
Impact Ratings

SDG 9

Industry, Innovation and Infrastructure

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Why we measure

Investments in infrastructure – transport, irrigation, energy and information and communication technology – are crucial to achieving sustainable development and empowering communities in many countries.

We are exploring how universities drive innovation through links to industry.

https://www.un.org/sustainabledevelopment/infrastructure-industrialization/

Links to other SDGs

It has long been recognized that growth in productivity and incomes (SDG8), and improvements in health (SDG3) and education (SDG4) outcomes require investment in infrastructure. Innovation can produce opportunities for addressing areas around clean water (SDG6), affordable energy (SDG7), and even climate change (SDG13).

Metrics and indicators

9.1 Research on industry, innovation and infrastructure

9.1.1 Industry, Innovation and Infrastructure: publications

The number of publications looks at the scale of research output from a university around industry, innovation and infrastructure

The indicator is normalised and is worth 11.60% of the score in this SDG (equivalent to 3% of the overall score).

9.2 Patents citing university research

9.2.1 Number of patents citing research

Patents are an indicator of the relevance of university research to society and industry. Rather than looking at patents directly associated with a university, we instead explore the number of patents from any source that cite research conducted by the university.

Patents are sourced from 111 different global patent offices, including the World Intellectual Property Organisation, the European Patent Office, and the patent offices of the US, UK, and Japan.

This indicator is normalised and is worth 15.40% of the score in this SDG (equivalent to 4% of the overall score).

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9.3 University spin offs
Year: 2024

Another measure of a university's innovation is the creation of new companies directly from the research at the institution.

University spin-offs are defined as registered companies set up to exploit intellectual property that has originated from within the institution. They must have been established at least three years ago and still be active.

The metric relates to the UN Targets 9.3.

This indicator is normalised and is worth 34.60% of the score in this SDG (equivalent to 9% of the overall score).

9.3.1 Number of university spin offs

Data Collected	Definition
Number of university spin-offs	**These are defined as registered companies set-up to exploit intellectual property that has originated from within the institution. They must still be active and have been established at least 3 years ago**

Data submission guidance

Guidance: spin-off
Spin-offs can have different ownership models – those with some institution ownership, and those not owned by the university (or no longer owned by the university). In all cases a spin-off is set up to exploit intellectual property that has originated in the university. This distinguishes them from companies that are founded by members of the university but where there is no technology or knowledge transfer.

Spin-offs with some institution ownership
These are defined as registered companies set-up to exploit intellectual property that has originated from within the institution, and where the institution continues to have some ownership.

Spin-offs, not owned by the institution
These are defined as registered companies set-up based on intellectual property that has originated from within the institution but which the institution has released ownership.

Relevant timespan
This definition looks at spin-offs that took place on or after January 1, 2000. The spin-off must still be trading/still be active.

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9.4 Research income from industry and commerce

Year: 2024

This metric reflects the ability of the university to generate new research income from industry and commerce, and is also used in the Times Higher Education World University Rankings. It measures the amount of research income an institution earns from industry (adjusted for PPP), scaled against the number of academic staff it employs.
The data are subject-weighted against three broad areas: STEM; medicine; and arts, humanities and social sciences. This is scaled by the number of full-time equivalent academic staff in each area.

The metric relates to the UN Targets 9.5 and 9.B.

This indicator is normalised and is worth 38.40% of the score in this SDG (equivalent to 9.98% of the overall score).

9.4.1 Indicator: Research income from industry and commerce per academic staff

Data Collected	Definition
Research income from industry and commerce by subject area: STEM Research income from industry and commerce by subject area: Medicine Research income from industry and commerce by subject area: Arts & Humanities / Social sciences	The income your institution has received during 2024 specifically for research purposes by subject area where the income has been given by industry or commerce
Number of academic staff by subject area: STEM Number of academic staff by subject area: Medicine Number of academic staff by subject area: Arts & Humanities / Social sciences	This is the FTE (Full Time Equivalent) number of staff employed in an academic post, e.g. lecturer, reader, professor who teach, research or do both by subject area, referring to 2024. This is a subset of number of academic staff.

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Data submission guidance

Definition: currency
Research income is to be provided in the currency previously identified as that used by your institution.

Definition: Broad subject areas (see appendix 3)
- STEM
- Medicine
- Arts & Humanities / Social Sciences

Definition: Research Income from industry and commerce
This is the gross income received from industrial and commercial entities, and directly funding research projects. It must be externally generated as a result of short-term contracts or longer-term research units.

Information contained in the OECD's Frascati Manual (https://www.oecd.org/sti/inno/frascati-manual.htm) may help you define what is considered as 'research'.

This should NOT include the following income types even when redirected towards research activities:
- General funding and income generated by your own institution through donations, investments, and commercialisation
- Funding for research facilities and infrastructure
- IP royalties, licensing and consultancy fees
- Teaching income
- Income from public sources (government and charities)

Guidance: Research Income
Please do not include any data from affiliated commercial entities such as Technoparks and Business companies, or funding for incubation/startup programmes since we do not consider them as academic entities. They may do their own R&D, however it is different from research by the university itself.

If any subsidiary companies such as Technology Transfer Office that fully-owned by university provide support for licences and patents for their academics and students, you can include their income as long as they are included in your annual and financial reports.

Definition: Number of teaching and research staff
This category includes teaching-only staff AND staff whose contract encompasses both teaching anUd research .

FTE The FTE for a staff member can be calculated as the total number of hours worked during the year, divided by the number of working hours of a full-time person.

This should include:
- Professors, assistant and associate professors.
- Research staff such as nonteaching "fellows" and postdoctoral

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This should NOT include:
• Research assistants
• Clinicians of all types (unless they also have an academic post and a sizeable portion of their workload involves teaching or research)
• Technicians and staff that support the general infrastructure of the institution or students (of all levels).
• Staff that hold an academic post but are no longer active (e.g., honorary posts or retired staff) or visiting staff.

This should NOT include:

- research assistants, clinicians of all types (unless they also have an academic post), technicians and staff that support the general infrastructure of the institution or students (of all levels).
- staff that hold an academic post but are no longer active (e.g. honorary posts or retired staff) or visiting staff.
- clinicians from affiliated hospitals unless they also have an academic post and a sizeable portion of their workload involves teaching or research

The FTE for a staff member can be calculated as the total number of hours worked during the year, divided by the number of working hours of a full-time person.