

CITC 2022 Results



Chip Integration
Technology Center



TEAM

23 people work for CITC



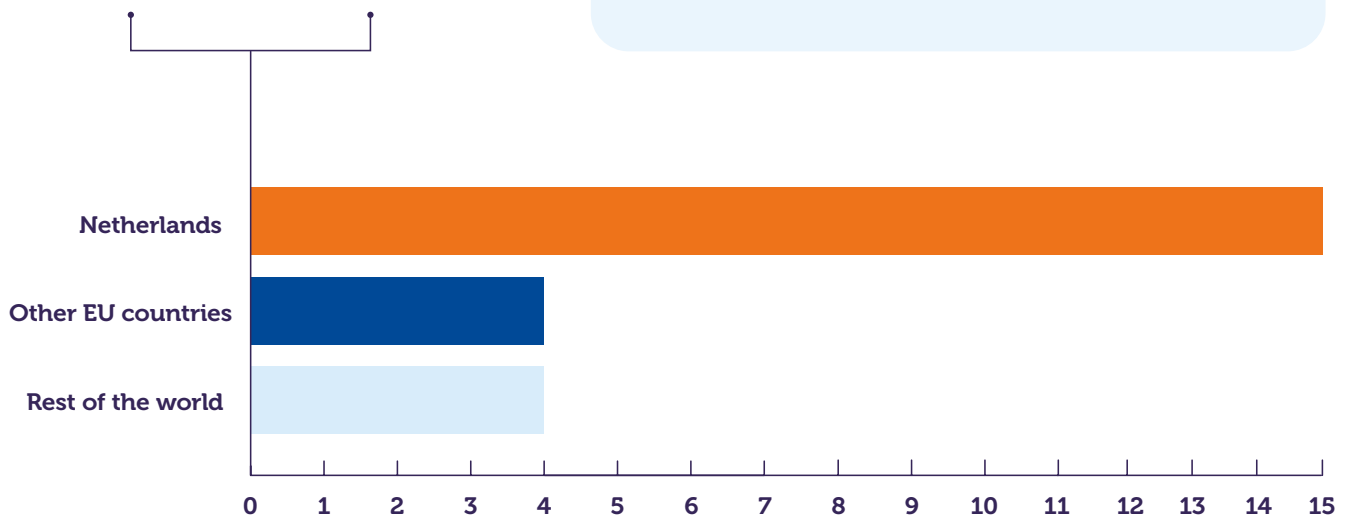
30%



70%

In memoriam

In 2022, co-founder and first general manager of CITC passed away: Barry Peet. Without him, CITC would not be what it is today.



CORE ACTIVITIES

Our core activities are providing access to

Innovation



Infrastructure



Education



ACCESS TO INNOVATION



Spoken at
conferences:
4



Published scientific
articles: **2**



New strategic
partnerships:
3



New participations
in European projects:
1



Submitted growth
fund projects: **4**



Generated
simulation data:
687 GB

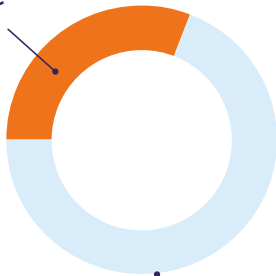


Optical
alignment:
182 x

19,737 wirebonds
made with
55,433 mm wire



17,181
aluminum
wire

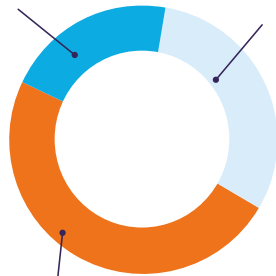


38,252
gold wire

1,227
placed dies



254
optical
dies



595
high-power dies

378
RF dies



ACCESS TO INFRASTRUCTURE



320,000 euro
invested in
our lab



New
equipment: **5**



11
Company visits to
our labs



3
Permanent guest
researchers



Marco De Martini did his bachelor's graduation internship in Electrical Engineering at CITC:

"For my assignment, I was allowed to work with the advanced equipment in the CITC lab. Most of the equipment, such as the in-situ climate chamber, was new to me. It was really cool to learn how to work with this".



ACCESS TO EDUCATION



27 students trained in
Semiconductor Packaging
University Program



601 hours of
training provided



Guiding of:

- 4 interns and graduation students: 2 secondary vocational, 2 bachelor
- 2 PdEng students, 1 PhD student



Guest lectures for students:

- 40 primary school
- 27 secondary school

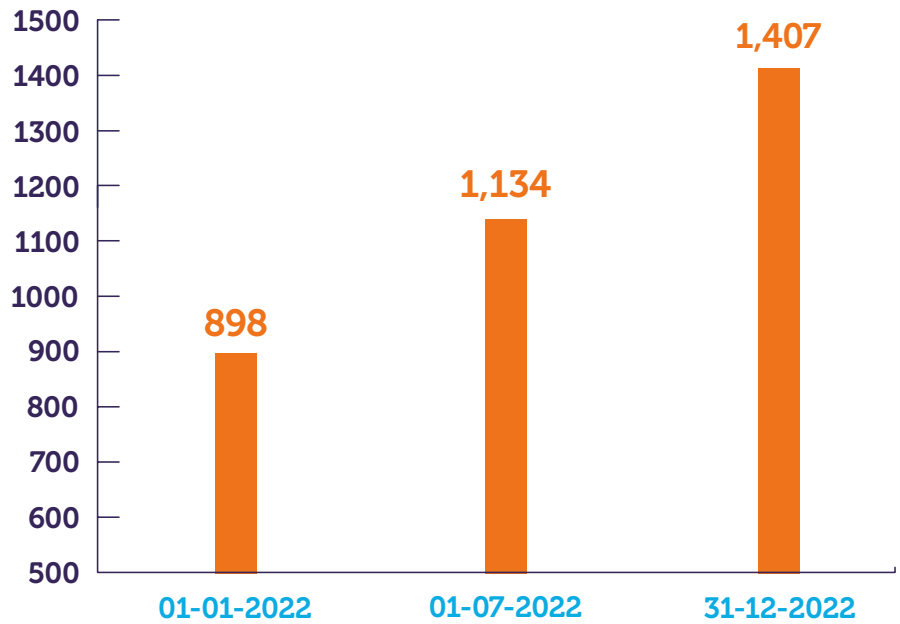


MARKETING



Number of
followers on
LinkedIn

Increase
of 57%



Increase
of 38%



14,058
visitors to
our website



Ruud de Wit, Business Development Manager at Henkel Belgium works closely with CITC:

"Henkel and CITC are collaborating on the development of high-thermal die attach adhesive solutions for RF and power electronics. We are happy with the hands-on support and die attach application knowledge CITC adds. In this way, we can accelerate our product development and bring new products to market sooner".



Participated in
22 events

**Exhibitions and
conferences: 8**

**Self-organized:
8**

**Other
events: 5**

Online: 1

2022: LOOKING ABROAD

In 2022, CITC was finally able to expand its boundaries after the lifting of the COVID-19 restrictions. Whereas in previous years, the focus was necessarily on the Netherlands, we now turned our attention to other countries, particularly Europe and Japan.

Physical visits to customers and partners across the border, but also participation in international conferences and exhibitions – it was all possible again and we made ample use of that. This resulted in many new contacts, relationships, and partnerships.

Last year, we also succeeded in creating a complete ecosystem for each of our three program lines. For each program, we built relationships with material suppliers, equipment suppliers, and internal device manufacturers. As a result, we now bring together knowledge and experience from different angles to create an optimal balance between design, material, and process.

Innovation and infrastructure

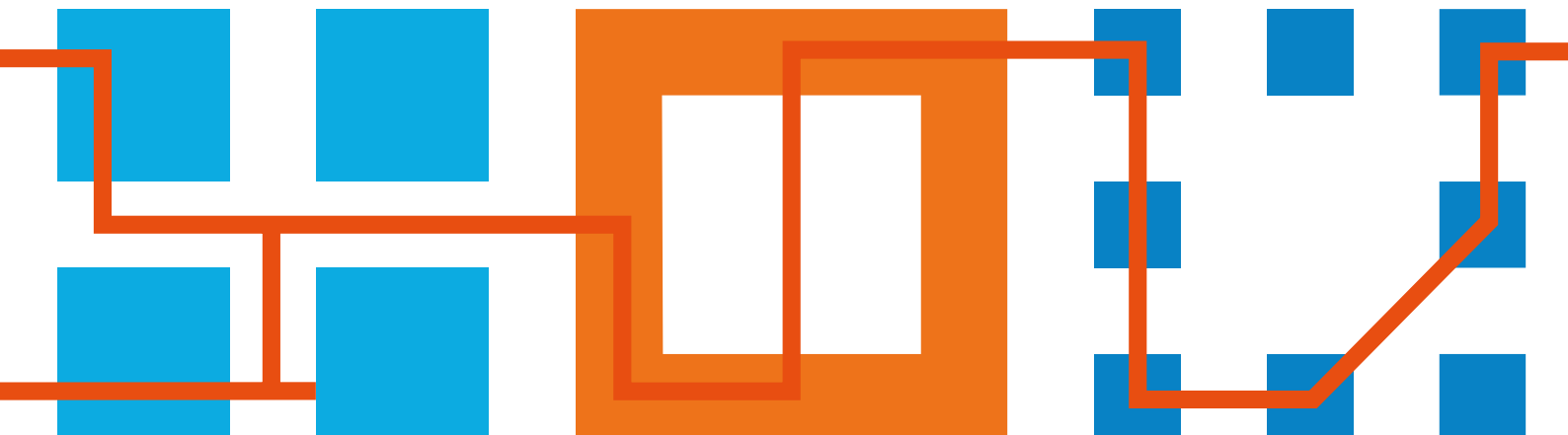
Collaboration is central to our core activities. In innovation, we not only work with large research institutions and the multinationals in the semiconductor industry like NXP, Ampleon and Nexperia, but also with small innovative companies.

However, collaboration consists of more aspects than the exchange of knowledge and experience. Sharing facilities with other high-tech companies, especially on the Novitech Campus, creates synergy between all organizations. In addition, duplicate investments are prevented. For example, CITC uses EPR's X-ray inspection equipment to analyze samples. And vice versa, we offer space to various permanent guest researchers in our labs.



Wayne Loschi, director of Electronics & Photonics Innovation Centre (EPIC) in the United Kingdom entered into a partnership with CITC in 2022:

"There are so many clear opportunities for collaboration which will benefit our respective centers and businesses. We'd love to see our companies working closer with CITC to improve innovation and equally we'd welcome more Dutch companies here!"



Education

Finding well-trained technical staff is a major challenge for companies and this is unlikely to become any easier in the future. CITC works together with educational institutions to secure the future of the semiconductor industry in Europe. We do this at different levels: secondary vocational, bachelor and master levels.

As an accredited work placement company, we offer internships to students from different regional education centers. Together with HAN University of Applied Sciences, we have set up a unique course: the Semiconductor Packaging University Program. This program provides specific knowledge about chip packaging and can be followed by both bachelor students and people already working in the semiconductor industry. Through CITC, several former participants have already been placed with local companies.

In addition, through cooperation with Sterk Techniek and the Weekendschool Foundation, we help students encounter the Nijmegen high-tech world at a young age. At the end of 2022, we hired a Program Manager Education who will further expand and structure our education activities – also outside the Netherlands.

Network organizations

As a young and small player in the semiconductor landscape, CITC enjoys being part of various local, regional, and international network organizations. Our location on the Novitech Campus is a good example. With its strong focus on high-tech and packaging, the campus is a perfect playing field for us.

In conclusion

Since our foundation 3.5 years ago, CITC has experienced how applicable the adage 'Think globally, act locally' is to us. By working together locally, we can make a global impact: developing crucial solutions for the societal challenges that await us now and in the future.



Chris van Wieren, location manager of IMC Weekendschool Nijmegen, visited CITC with his first-year students for a guest lecture:

"Our students are already curious about anything to do with technology. To further enthuse them, you only need professionals who can talk passionately about their daily work. Now, thanks to CITC, they have become a bit more knowledgeable."



ORGANIZATIONS CITC COLLABORATED WITH IN 2022

Companies

- Ampleon
- AntenneX
- Enzyre
- EPFL/Tyndall
- EPR Partner
- Etteplan
- Gallium Semi
- Henkel
- Infineon
- iPronics
- KDPOF
- Lumicks
- Mini-Circuits
- Mintres
- Mitsui
- Nexperia
- NXP
- RJR
- Thales
- TNO
- Yole Group



Educational institutions

- Hogeschool van Arnhem en Nijmegen
- IMC Weekendschool
- Radboud University
- ROC Nijmegen
- Sterk Techniek
- Stichting LeukOmteLeren
- TU Delft
- TU Eindhoven



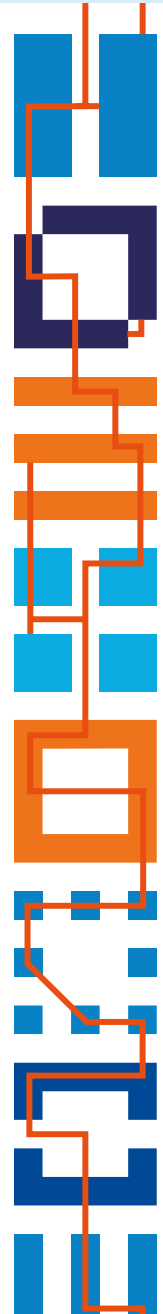
Network organizations

In the Netherlands

- Economic Board
- High Tech NL
- Holland Semiconductors
- Noviotech Campus
- OostNL
- PhotonDelta

International

- Aeneas
- EPIC
- European Center for Power Electronics
- European Photonics Industry Consortium
- SEMI Europe



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