



IT COMPETITION 2018

**Augmented Reality (AR) &
Internet of Things (IoT)
in the Construction Industry**

CALL FOR SUBMISSION



IT COMPETITION 2018

Every year Hilti organizes an IT competition to help solve some of the industries most pressing problems. Students and graduates from all over the world join the competition to both prove themselves and to kick-start their careers.

THE COMPETITION

2017 was an interesting year in many ways. It was an inflection point where IoT, Cloud and AI started to converge together to lay the foundation for new set of business applications. One of the most interesting development where this convergence comes together is the field of Augmented Reality (AR).

As digitization capabilities extend, virtually every aspect of life is captured and stored in some digital form, and we move closer towards the interconnected network of everyday objects. The impact of this is a real-time global exchange of information between multiple connected devices. On the other hand, Internet of Things play a vital role in supporting employee productivity and customer service. For customers, user-centric Hilti IT solutions aim to provide a platform for simple, immediate access to on-the-spot information on Hilti products and services. For example, Hilti's asset management solution which can be found at <https://www.us.hilti.com/ontrack>.

THE TOPIC

The Hilti IT Competition is an annual management initiative aimed at generating new and innovative technology ideas from students and graduates. HILTI IT Competition 2018 focuses on Augmented Reality (AR) and Internet of Things (IoT) design ideas that will enhance the digital experience of Hilti customers and employees. You may choose a topic (AR, IoT or combination of both) that best fits your interests and skills to unleash your potential in those fields.

You are required to: Design and develop an AR or IoT solution that supports and enhances Hilti products and services for the construction industry. Please choose one of the following challenge that best fits your interest and skills:

Topic 1: Digitalization of Customer Interaction

Some two-thirds of Hilti's 23,000 worldwide employees work directly on behalf of customers in Hilti sales organizations and technical service units. They generate more than 200,000 daily interactions with customers, creating the basis for the ongoing development of new products and services. Your task: Design and develop a solution prototype incorporating innovative ideas to realize the digitalization of customer interaction

Topic 2: Implementation in Construction Industry

Hilti provides premium products, systems and services to construction professionals. The company regularly sets the standard in the construction and building maintenance industries by developing and providing innovative solutions and internationally renowned products. Your task: Design and develop a solution that supports and enhances Hilti products and services for the construction industry.

'You may choose a topic (AR, IoT or combination of both) that best fits your interests and skills to unleash your potential in those fields.'

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Condition: Please make the necessary assumptions. You may include the usage of prototype boards (e.g. Raspberry Pi) or alternatively, find means to simulate your prototype. You may use any open-source communication protocol (e.g. HTTP, MQTT) and mobile app or cloud platform. You are also free to use any hardware, programming language, database or platform services of your choice.

Please decide the scope of your topics (the idea, front end, back end, any special algorithm(s), etc.). For more details on Hilti, the relevant processes, products and services go to Hilti Online (<https://www.hilti.group>).

IMPORTANT DATES

Registration Opens: 1st November 2018

Semi-finals: 26th February 2018

Submission Deadline: 31st January 2018

Final Competition: 27th – 29th March 2018

*registration closes 2 weeks before the submission deadline

OBJECTIVES

Why should you enter Hilti IT Competition 2018?

There are so many reasons, beside the prizes:

Build your skills

Engage with science and IT technology by creating a project that you are passionate about. Build your presentation and communication skills by showcasing your project to the industry expert. Get tips and feedback from industry and academic experts on how you can take your work forward. Have your hard work recognised in a prestigious international competition.

Build your experience

Compete against like minded graduates from across the World. Meet leading technologists, subject matter experts and network with your peers. It's an opportunity to put yourself, your lecturers and your University on the world map.

Build your career

Each finalist will have access to a fast-track application process to a paid internship. The internship provides finalists with the chance to further develop their idea and to bring it to life at Hilti. To identify talented individuals, for possible permanent positions with Hilti in the future.

REGISTRATIONS

Registration opens from 1st November 2017 to 20th January 2018. Please register using the online registration form at our competition website <http://q-r.to/hilti>. It's important to register early to express your interest in participating, keep yourselves informed on the current updates and get the chance to participate in our webinar(s). Registration form must be completed with all relevant information; incomplete registration will not be accepted.

PARTICIPATIONS

Participation for the competition is free and open to all undergraduate and post graduate students of any disciplines internationally. Submissions are welcome from individual participants as well as from teams of up to five people. Team size is not relevant to the evaluation criteria.

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A detailed technical knowledge of the construction industry is not necessarily required to participate in this competition. Plagiarism is prohibited. The project entry must be the original work of the entrant(s) only.

By entering the Competition, you agree that your entry can appear on public display. The organisers of the Hilti IT Competition 2018 may use the entry on the internet, on radio, on television and in print to promote the Competition.

Entries must be made in accordance with the competition instructions. They are invalid if they are received any later than the specified closing time

It is the responsibility of the entrant to inform the Hilti IT Competition 2018 committee of any changes to their contact details. Failure to do so may result in the entrant not receiving notification of results or similar correspondences.

By participating in Hilti IT Competition 2018, participants will be deemed to have agreed to be bound by these rules.

／ SUBMISSIONS

Competition submission(s) should reach us not later than 31st January 2018. Participants should submit their prototype with a presentation document and a short film of no longer than five(5) minutes.

Your presentation document should explain the purpose of your idea and how it supports Hilti and our customers. Use an illustrative and attractive way to present typical application situations, a proposal for the design and the benefits your idea will bring to Hilti. Feel free to make reasonable assumptions about the technical requirements as needed.

Sample competition presentation template can be found at our competition website <http://q-r.to/hilti>. The template serves as a guide for you to create your own presentation.

The film should be interesting to watch but also ensure you put in enough details about the technical concept behind your project. You could add graphs and other visuals to demonstrate your work.

‘Competition submission(s) should reach us not later than 31st January 2018’

／ JUDGING CRITERIA

Once the deadline for entries (31st January 2018) has passed, all the competition submission summaries and films will be reviewed by Hilti internal subject expert judges. These judges will review the summaries and films and will score them against the judging criteria. Competition submissions will be judged based on innovation, originality, design, mutual benefit, quality, technical feasibility, sustainability and presentation.

Innovation and originality

Judges are looking for inventions and innovations. Try to come up with a fresh application for a product or a novel way to process data. Your submission may be a really innovative technology or it may be an existing technology being used in a new way. It may also be an innovation in how you market a product.

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Design and mutual benefit

Core to high a quality engagement is the design and idea of mutual benefit. We would expect there to be benefits to all those involved – increasing Hilti employee productivity and enhancing customer service and experience.

Quality and sustainability

Judges are interested to know about if and how you plan for sustainability. This includes how you managed the relationship with Hilti, their customers and partners over time.

Presentation

Make it clear what you are doing and why. Make sure your message is clear and that the judges will be able to understand your presentation. It has to be neat, the message is clear and that you are proud of your work.

SEMI FINAL

Semi finals is on 26th February 2018. The best submissions will be invited for Semi-final presentation. The semi-final qualifiers will be announced at the Hilti IT Competition 2018 website and will be informed via mails(emails & snail mails). Semi-final selection event will be conducted via video conferencing. Details on selection schedule and video conferencing details will be shared directly to semi-finalists.

FINAL COMPETITION & WORKSHOP

The final competition is from 27th – 29th March 2018 at **Hilti Asia IT Service Sdn. Bhd.**

The selected finalists will be invited to an on-site workshop followed by their final presentation at:

Hilti Asia IT Services Sdn. Bhd.

Level 5, Brunfield Oasis Tower 3,
No. 2, Jalan PJU 1A/7A Oasis Square,
Oasis Damansara,
47301 Petaling Jaya,
Selangor, Malaysia.

The workshop will give finalists the chance to further develop their ideas and learn more about Hilti business while networking with a group of highly creative individuals. Final presentations will be judged by an international panel of experts. The judges' decisions are final and no appeals will be entertained.

Winners will be announced at the award ceremony right after the competition. A full list of prize winners will be published on the Hilti IT Competition 2018 website and other publications selected by the organisers.

Finalists air-fare, travel and accommodation for above mentioned workshop, presentations and award ceremony will be sponsored by the organiser. Participation at this event is mandatory for prize eligibility.

PRIZES

1st Place: Paid Study Trip

The winning team of up to five people will receive air fare and a five-night stay at one of Hilti's strategic IT locations: Kuala Lumpur, **Malaysia**; Plano/Tulsa, **USA** or Schaan, **Liechtenstein**. The trip will be arranged on the basis of the winning team's home country. The team members will have the opportunity to learn about Hilti IT services and to build their Hilti network.

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2nd and 3rd Place: A Piece of Hilti

Each 2nd and 3rd place team winner will be awarded with a Hilti power tool box. Hilti power tools are one of the finest product that comes with advanced technology, precision, reliability and lifetime warranty.

All finalists: Internship

Each finalist will have access to a fast-track application process to a paid internship. The internship provides finalists with the chance to further develop their ideas and to bring it to life at Hilti.

Please visit the competition website for registration:



Competition website: <http://q-r.to/hilti>

Or scan the QR code.

For further information, questions or queries please contact us at:

Hilti Asia IT Services Sdn. Bhd.

Email: it-competition-2018@hilti.com

*mailbox are monitored during Asia Pacific work hours. We will reply to you email within two (2) working days.