



enGlobe

engineers go global

# THI Scholarship Program for Internships (Praxissemester/Abschlussarbeit)

August-December 2020

at

Pollux (Joinville, Brazil)

Renault do Brasil (Curitiba, Brazil)

VW Argentina (Buenos Aires, Argentina)

Apply until **January 8,  
2020** for the winter  
semester 2020/21!

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## What is enGlobe?

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*englobe – engineers go global* is a DAAD funded project at THI which offers 6 scholarships to THI students for internships of 5 months (01.08.-31.12.) in English at Pollux (Joinville, Brazil), Renault do Brasil (Curitiba, Brazil) and VW Argentina (Buenos Aires, Argentina) each year from 2020-2023.

The offered internships in this catalogue are directly connected to the *enGlobe* scholarship 2020, which is automatically granted to successful applicants (no separate application necessary).

The scholarship includes:

- Single travel allowance (fixed sum, for all travel costs): 1.575€ (Brazil) / 1.875€ (Argentina)
- Monthly scholarship rate: 1.175€ (Brazil) / 1.075€ (Argentina)

The internship itself does not include any remuneration or further financial support.

## Who can apply?

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Primarily students of one of the following undergraduate THI study courses:

- Mechatronik
- Elektro- und Informationstechnik
- Wirtschaftsingenieurwesen
- Fahrzeugtechnik
- Maschinenbau
- Elektrotechnik und Elektromobilität

The internship can be recognized for the **“Praxissemester”** or combined as voluntary internship with the **final thesis**. Sufficient **English language skills (min. B2)** are required for all internships.

Undergraduate students from other study courses can also apply as long as they fulfill the requirements and explain their reasons for application in their motivation letter.

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## How to apply?

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The following documents have to be submitted **as one pdf file (max. 15 MB)** to [enGlobe-internships@thi.de](mailto:enGlobe-internships@thi.de) until **January 8, 2020 (23:59)**<sup>1</sup>:

- Application form (<https://aware.thi.de/studium-praktikum/brasilien-argentinien/englobe-internships/>), where you can indicate 1-2 internship offer(s) for which you would like to apply
- Motivation letter (1-2 pages) explaining choice of internship offer(s) (preferably in English)
- CV (max. 2 pages) in English
- Current transcript of records in English
- Optional: Proof of sufficient English language skills (min. B2)
- Optional: Proof of Portuguese and/or Spanish language skills
- Optional: Proof of international experience (studies/internships abroad, participation in international conferences/seminars/courses etc., active membership in international organizations etc.)

If you have further questions, please read our FAQ (in German) and/or contact:

Lisa Hermsen, *enGlobe* project coordinator THI

[enGlobe-internships@thi.de](mailto:enGlobe-internships@thi.de)

+49 841 9348-6469

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<sup>1</sup> By sending your application including your personal data, you confirm that THI is allowed to use it for organizational purposes during the selection procedure, the internship, for statistics and alumni activities.

# Pollux

Automation

## Offers at Pollux in Joinville (Brazil)

### Mechanical Design/Automation Department

in cooperation with the Federal University of Santa Catarina (UFSC)

**Pollux** is the most innovative industrial technology company in Brazil. Our purpose is simple: to increase industry competitiveness. We deliver solutions that make factories more productive, efficient and smart, allowing customers to win in an increasingly competitive global scenario.

**Automation Department:** We deliver assembly lines, robotic cells and machine building solutions that are more efficient and provide an extremely high degree of automation, based on advanced manufacturing precepts and Industry 4.0.

The **Federal University of Santa Catarina (UFSC)** in Joinville is a long-standing strategic partner of THI in the automotive network AWARE. UFSC supports this internship program by offering to the interns administrative support, especially in visa questions. In case the intern would like to write his/her final thesis connected to the internship and has found a supervisor at THI, the partner university will also support in supervising the thesis or internship on site. In any case, it is expected from the student to write a technical paper on his activities at Pollux in collaboration with the company and UFSC.

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## Offer I:

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Pollux Automation seeks a programming engineer to help design and test special mounting lines for the Automobile Industry. As one of our engineers, you will create dependable, hardworking products befitting our company's name. You will exercise your creativity and determination every day as you develop functional codes, place them through rigorous testing and release them at a real device when they meet or exceed our specifications for product quality and safety.

### Internship Responsibilities

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- Design code, consult with engineering and other teammates to ensure that designs are feasible
- Develop and build prototypes and run tests to measure their level of function
- Record and evaluate testing data, altering designs as necessary to bring them to safety, performance and efficiency standards
- Consult with other teams during device assembly, advising them on design specifications and providing logical assistance when required
- Release reports to supervisors
- Attend weekly team meetings to provide progress reports, obtain updates on colleagues' progress, strategize on steps for following week and acquire information about other aspects of the project

Supervisor: Tiago Romeu Scholz – Engineering Manager of the Automation Division

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### Requirements

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- Primarily students of one of the following undergraduate THI study courses: Mechatronik, Elektro- und Informationstechnik, Wirtschaftsingenieurwesen, Fahrzeugtechnik, Maschinenbau, Elektrotechnik und Elektromobilität (students from other study courses can also apply)

### Offer II:

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Pollux Automation seeks a mechanical design engineer to help design and test special mounting devices for the Automobile Industry. As one of our engineers, you will create dependable, hardworking products befitting our company's name. You will exercise your creativity and determination every day as you develop prototypes, place them through rigorous testing and release them for manufacturing when they meet or exceed our specifications for product quality and safety.

### Internship Responsibilities

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- Design products using CAD, and consult with engineering and manufacturing teammates to ensure that designs are feasible
- Develop and build prototypes and run tests to measure their level of function
- Record and evaluate testing data, altering designs as necessary to bring them to safety, performance and efficiency standards
- Consult with fabrication teams during product manufacturing, advising them on design specifications and providing physical assistance when required
- Calculate cost estimates for final product designs, and release reports to supervisors, incorporating costs of labor, material, delivery and overhead
- Attend weekly team meetings to provide progress reports, obtain updates on colleagues' progress, strategize on steps for following week and acquire information about other aspects of the Project.

Supervisor: Tiago Romeu Scholz – Engineering Manager of the Automation Division

### Requirements

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- Primarily students of one of the following undergraduate THI study courses: Mechatronik, Fahrzeugtechnik, Maschinenbau, Elektrotechnik und Elektromobilität (students from other study courses can also apply)



## Offers at Renault in Curitiba (Brazil) Development of Industry 4.0 solutions/Production Engineering – Tooling and Support Department

in cooperation with the Federal University of Paraná (UFPR)

**Renault do Brasil S.A.** is a subsidiary of the Groupe Renault that was established in Curitiba/BR in the year 1998, placed in the Complexo Ayrton Senna, comprising four plants: CVP, CVU, CMO and CIA. Renault currently produces a range of vehicles and vans for the Latin America market, and has the ambition to feature in the TOP-3 of the regional market.

To support Renault in the industrial strategy, there is the PE-TS (Production Engineering – Tooling and Support Department) with the responsibility to deploy the concepts of Industry 4.0 oriented to the maintenance activities.

The **Federal University of Paraná (UFPR)** in Curitiba is a long-standing strategic partner of THI in the automotive network AWARE. UFPR supports this internship program by offering to the interns Portuguese classes and administrative support in visa questions. In case the intern would like to write his/her final thesis connected to the internship and has found a supervisor at THI, the partner university can also support in supervising the thesis on site.

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### Offer III:

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#### Internship Responsibilities

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The internship tasks will be related to the development of I-4.0 solutions capable to increase the performance of the Renault plants, 80% centered in conditional maintenance data-driven systems, including:

- data-collection, transmission and storage;
- data-analyzing by classification and clustering methods, numerical modeling, etc.;
- automatic pattern recognition; and
- man-system interface development (i.e.: dashboards, reports, etc.);

The supervisor for this project is an eighteen years experienced maintenance manager, with total openness to new ideas on I-4.0.

#### Requirements

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- Primarily students of one of the following undergraduate THI study courses: Mechatronik, Elektro- und Informationstechnik, Wirtschaftsingenieurwesen, Fahrzeugtechnik (students from other study courses can also apply)
- Advantageous: knowledge of conditional-based maintenance methods
- Advantageous: knowledge of vibration, thermal and other physical quantities measurements
- Advantageous: knowledge of statistics, time-domain, frequency-domain, neural-networks and fuzzy-logics
- Programming skills (VBA, Python, MATLAB and Simulink, others)

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## Offer IV:

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### Internship Responsibilities

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The internship tasks will be focused on the development of a line balancing system to optimize human and material resources, improve and define the better component assembly sequence and ensure ergonomics. The expected skills to do this project are in:

- Data Mining
- Artificial Intelligence
- Data visualization (PowerBI or Tableau)
- Knowledge in automotive process, mainly assembly lines

You will be integrated in the technical team, your supervisor is an eighteen years experienced expert in the Automotive Industry, leading teams in Maintenance, Manufacturing and Engineering.

### Requirements

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- Primarily students of one of the following undergraduate THI study courses: Mechatronik, Elektro- und Informationstechnik, Wirtschaftsingenieurwesen, Fahrzeugtechnik (students from other study courses can also apply)
- Statistics and Math
- Programming skills (Python, R)
- Teamwork skills (communication, decision making, organization and planning, etc.)



Volkswagen Argentina

## V. Offer at VW Argentina in Buenos Aires (Argentina) Electrical and Electronic testing analysis and failure diagnosis on MQB to MEB platform/Department of Quality Assurance in cooperation with Technical University of Argentina, FRGP (UTN)

**Volkswagen Argentina** is the biggest car manufacturer in Argentina, located in General Pacheco, Buenos Aires State, producing cars and pick-ups.

Your internship will take place in the Quality Assurance Department, dealing with analysis procedures on the complete vehicle. Your main task is to develop a theoretical and practical framework or guideline in order to find and analyze the failures that might occur on the MQB network infrastructure, keeping in mind the increasing complexity to reach the latest electrical-vehicle-on-board-network (MEB). You will be provided with a description of the necessary equipment in order to make material testings, functional analysis and diagnosis for electric and electronic parts of the complete vehicle. You will work full-time in our plant; attending to technical or Spanish classes at UTN in the evening is possible.

**Technical University of Argentina (UTN)** in Buenos Aires is a strategic partner of THI in the automotive network AWARE. UTN supports this internship program offering Spanish classes and administrative support in visa questions. In case you would like to write your final thesis connected to this topic and you have identified a supervisor at THI, UTN can also support in supervising the thesis on site. Furthermore, UTN is offering rooms for exchange students in its student residency on its campus, next to VW.

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### Requirements

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- Primarily students of one of the following undergraduate THI study courses: Mechatronik, Elektro- und Informationstechnik, Maschinenbau, Wirtschaftsingenieurwesen, Fahrzeugtechnik, Elektrotechnik und Elektromobilität (students from other study courses can also apply)
- Proactive and communicative attitude skills are necessary to interact with the different areas. In addition, the intern should be interested in searching technical information on new electronic vehicles and in being part of the analysis team to carry out practical and functional electric tests on the complete vehicle.

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Volkswagen Argentina

## VI. Offer at VW Argentina in Buenos Aires (Argentina) Digitalization and application of industry 4.0-concepts/Department of Production

in cooperation with Technical University of Argentina, FRGP (UTN)

**Volkswagen Argentina** is the biggest car manufacturer in Argentina, located in General Pacheco, Buenos Aires State, producing cars and pick-ups.

Your internship will take place in the production area, dealing with optimization procedures of the production line and analyzing the possible implementations with the Pilot Hall area.

The main objective of your internship is to analyze and identify new potential opportunities of digitalization for the already implemented process and operations, in order to apply concepts of Industry 4.0 and traceability in our plant. You will work in a specialized team and you will receive training and support regarding current Industry 4.0 concepts of the more experienced specialists. You will work full-time in our plant; attending to technical or Spanish classes at UTN in the evening is possible.

**Technical University of Argentina (UTN)** in Buenos Aires is a strategic partner of THI in the automotive network AWARE. UTN supports this internship program offering Spanish classes and administrative support in visa questions. In case you would like to write your final thesis connected to this topic and you have identified a supervisor at THI, UTN can also support in supervising the thesis on site. Furthermore, UTN is offering rooms for exchange students in its student residency on its campus, next to VW.

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### Requirements

- Primarily students of one of the following undergraduate THI study courses: Mechatronik, Elektro- und Informationstechnik, Maschinenbau, Wirtschaftsingenieurwesen und Fahrzeugtechnik, Elektrotechnik und Elektromobilität und Elektromobilität (students from other study courses can also apply)
- Proactive attitude and fluent communicative skills are necessary to have a successful contact with different areas and to make a team building.

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