

## Position Description

### Group of research topics: Design for Digital-Physical Interaction and Behavior Change for Sustainable Cities

<b>Position is funded by</b>	<ul style="list-style-type: none"> <li>- COFUND, Marie Skłodowska-Curie Actions (MSCA), Horizon 2020, European Union</li> <li>- Eindhoven University of Technology (TU/e), Netherlands</li> <li>- RMIT University (RMIT), Australia</li> </ul>
<b>Research Host</b>	Eindhoven University of Technology (TU/e), Netherlands
<b>PhD awarding institution/s:</b>	Dual PhD awarded by TU/e and RMIT
<b>Locations</b>	<ul style="list-style-type: none"> <li>- Primary: Eindhoven, Netherlands</li> <li>- Secondary: Melbourne, Australia</li> <li>- Annual workshops in Barcelona, Spain</li> </ul>
<b>Contract</b>	Full time, fixed term (36 months)
<b>Gross annual salary</b>	34.076 EUR (gross amount before employee's taxes and contributions) (+ holiday and end of year allowance)
<b>Preferred start date</b>	15/01/2023 (tentative)
<b>Deadline for applications</b>	19/09/2022 (Reference: TU/e-DC3)

### Your choice of research topics (only one of these projects will be funded):

Project 1: Design Interventions	Project 2: Tools for Designers	Project 3: Methods and Impact Measurement
<p>Through a design research approach this project explores how interaction should be designed when it comes to digital twins of cities. A key focus point is to understand how to evoke behavior change when it comes to sustainability and how to design interventions in this design space. Combining data-driven design processes and visualizing societal related information including user experience data and analysis for different stakeholders is key of this design led technical PhD topic. With case studies from the Municipality of Eindhoven and other stakeholders in the Netherlands as well as Australia, the goal is to investigate how to show societal relevant information) in digital twins and how to design for the interaction of physical and digital.</p>	<p>Through a design research approach this project explores how interaction should be designed when it comes to digital twins of cities. A key focus point is to understand how to evoke behavior change when it comes to sustainability. Based on a data-driven process you establish the technical framework to enable visualizations for stakeholders and contribute to the field of design, by establishing a tool for designers that supports them in their design process. With case studies from the Municipality of Eindhoven and other stakeholders in the Netherlands as well as Australia, the goal is to investigate how such design tools can be used by stakeholders to support designers when it comes to interaction design of physical and digital from a technical oriented perspective.</p>	<p>With a strong background in evaluation methods and a clear understanding on measuring impact of design solutions for society you explore how to establish an evaluation framework investigating the impact of digital twins in cities on a societal level.</p> <p>A key focus point is to understand how to evaluation methods have to be combined to show the impact of the introduction of digital twins in such an eco-system. This can be based on case studies from the Municipality of Eindhoven and other stakeholders in the Netherlands as well as Australia.</p> <p>Your contribution is to understand the eco-system of the deployment of digital twins and how to set-up evaluations and define key criteria that can be used to measure impact of such solutions on society.</p>



Your goal in the PhD is to contribute to Design as a discipline and to be educated as a Designer.	Your contribution is on tools for designers and your goal is to be educated as a Designer.	Your contribution is on how to change design process in terms of impact measurement and your goal is to be educated as a Designer.
<b>Supervisors:</b> <u>Full Prof. Regina Bernhaupt (TU/e) and Malte Wagenfeld (RMIT)</u>		
<b>Research Fields:</b> Design, Human Computer Interaction		

For more information on the Projects, contact us: [redi.help@rmit.edu.au](mailto:redi.help@rmit.edu.au)

## Are you REDI? (Expected Profile)

### Project 1

**Your background and skills:** You should have a solid background in Human-Computer Interaction with a strong affinity towards technology and programming; programming skills at least in one language e.g. Java, C; and a good basis in data analytics and statistics. Likewise, good communication skills in English, both in speaking and in writing are required.

**Your work experience:** Professional experience is not required.

**Your research experience:** Experience in research and a publication record will be considered advantageous.

### Project 2

**Your background and skills:** You should have a solid background in Design or Interaction Design or Multimedia Design and a good basis in user-centered design methods and approaches. Likewise, good communication skills in English, both in speaking and in writing are required.

**Your work experience:** Professional experience is not required.

**Your research experience:** Experience in research and a publication record will be considered advantageous.

### Project 3

**Your background and skills:** You should have a solid background in Design, HCI or Computer Science; a strong interest in methods and their development; and a good basis in data analytics and statistics. Likewise, good communication skills in English, both in speaking and in writing are required.

**Your work experience:** Professional experience is not required.

**Your research experience:** Experience in research and a publication record will be considered advantageous.

**For more information about the general conditions of the REDI Program and the Eligibility Criteria, please visit:** <https://www.rediprogram.eu/>

## Employment Benefits and Conditions

TU/e offers a 36-month full-time work contract (extendable up to 48 months in duly justified cases), indicatively starting on 15<sup>th</sup> January 2023. The position will be based in Eindhoven (Netherlands). International travel is foreseen, including



to Australia (up to 12 months) and Spain (one week per year). There is a probation period of nine (9) months and there are 40 working hours per week.

The remuneration, in line with the European Commission rules for Marie Skłodowska-Curie grant holders, will consist of a gross annual starting salary of 34.076 EUR (gross amount before employee's taxes and contributions) (+ holiday and end of year allowance) resulting in est. €2.434 EUR gross per month. The net salary\* to be perceived by the researcher is estimated at €1.964 EUR net per month. However, the definite amount to be received by the Researcher is subject to national tax legislation. For more information on the estimated monthly net salary, use the [net salary calculator](#).

*\*Net salaries can fluctuate in accordance with an individual's personal circumstances (marital status, age, disability, family and dependents, etc. The above indicative net salaries offer an approximation of what a single person in their early 20s could expect to receive in their bank account after taxes.*

#### **Benefits include:**

- A yearly holiday allowance of 8% of the yearly salary.
- A yearly end year allowance of 8.3% of the yearly salary.
- A broad package of fringe benefits (including an excellent technical infrastructure, moving expenses, savings schemes and excellent sports facilities).
- 1,000€ yearly travel allowance to cover flights and accommodation to participate in the annual workshop at RMIT Europe in Barcelona (Spain).
- 10,000€ allowance to cover flights and living expenses for up to 12 months in Australia.

For more details, please see:

[https://assets.tue.nl/fileadmin/content/universiteit/diensten/daz/Bureau\\_PenP/Regulations%202021.pdf](https://assets.tue.nl/fileadmin/content/universiteit/diensten/daz/Bureau_PenP/Regulations%202021.pdf)

#### **Learn more on [RMIT](#) and [TU/e](#) on our website:**

<http://www.rediprogram.eu/about/#hostinstitutions>

### **PhD enrolment. Successful candidates for this position will be enrolled by the following institutions:**

#### **Admission at TU/e**

You will be enrolled as Doctoral Student at TU/e for the entire duration of the assignment. At admission, you will need to supply:

- Degree certificate and the transcript of records of a master's degree. Formal requirements for validating or accepting qualifications obtained abroad might vary depending on country of citizenship / origin.
- Candidates should have a C1 level of English according to the European Framework of Reference for Languages (CEFR).

More information:

[https://assets.tue.nl/fileadmin/content/universiteit/diensten/daz/Bureau\\_PenP/Regulations%202021.pdf](https://assets.tue.nl/fileadmin/content/universiteit/diensten/daz/Bureau_PenP/Regulations%202021.pdf)

#### **Admission at RMIT**

You will also be enrolled as Doctoral Student at RMIT for the entire duration of the assignment. At admission, you will need to supply:

- CV



- Complete transcripts for all academic qualifications
- Research proposal or statement of interest in an available research project
- Language certificates
- List of referees

More information: <https://www.rmit.edu.au/research/research-degrees/how-to-apply>

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