

Widening Country Inspiration Story

“Use your existing research networks.”

Organisation name: Charles University, Faculty of Mathematics and Physics

Organisation type: Higher education organisation

Country: Czechia

Project Acronym: PRIME

Project start and end date: 1.01.2021 – 31.12.2024

Type of MSCA, Horizon 2020: Innovative Training Networks

Is your organisation a coordinator? Yes

What is your project about?

The goal of this Innovative Training Network (ITN) is to have the participants develop skills and protocols needed for industrial usage of Predictive Rendering (PR) technologies - image synthesis which delivers results that one can actually rely on to be visually accurate. Application areas of such systems are as diverse as product design, architecture, sensor system calibration, training of autonomous vehicle systems, urban planning and manufacturing control. This is a cutting-edge area of applied computer science, in which European academia and industry are currently amongst the global technology leaders. An ITN network in this area greatly aids in maintaining and increasing the competitive edge of the European region in this regard, and training young researchers in a promising, future-oriented and research-driven application area. It establishes long term collaborations and lasting structured training programmes between the partner organisations, as well as allowing to conduct research work on several highly important engineering problems in this area.



Why is your project important for society?

The societal impact of our research primarily lies in us helping to provide significantly better tools for predicting scene and object appearance. Improved abilities in this regard serve two main purposes: first, to reduce waste, insofar as, ideally, only things and buildings that look exactly like they were envisioned will be manufactured in the first place. Second, to improve participation in all kinds of decision-making processes: if one can easily access reliable predictions of what for instance a certain interior planning project will look like, and if all stakeholders can rely on the visualisation being reliably accurate (as opposed to merely being the sort of general preview we currently use for such purposes), discussions can be made on a much more factual basis.

What communication and public engagement measures have you foreseen? Communication and outreach towards the end of our project will showcase scenarios where the research results in PRIME (such as our improved wood rendering capabilities) will be demonstrated to the general public in a practical setting.

What kind of support did you get? We got substantial advice from the EU project administrators at our university, and also from the National Contact Point (NCP). Our advice to anyone applying for a Doctoral Network is to make as much use as possible of such resources, and to also search for helpful materials published by other NCPs outside the consortium countries. For instance, we found an MSCA application checklist, which was extremely helpful when preparing our application, this checklist was a random find on Google. Nowadays, there is a [handbook](#), which serves the same purpose.

Do you have other successful projects under Horizon 2020? Yes, the [DISTRO Innovative Training Network](#).

What in your experience helped you to succeed? Basically the same ingredients that allowed us to get funding for PRIME: we built on a strong pre-existing research network where most participants already knew each other, and had collaborated in the past, and created an overreaching case for joint training and research happening within that group.

How did you find the partners in your consortium? The consortium was almost completely determined by the research network that already existed in Europe for the topic we are covering. Depending on how you look at it, there are between ten and maybe fifteen research groups in the European Union doing relevant work in our area: and the ITN brought a

substantial part of them together. The challenge was more who to exclude, rather than to find partners to add. We were also lucky that a strong industrial partner presented itself for inclusion in the project.

What tips can you give other organisations that would like to apply for MSCA? The main advice is to use your existing research networks: a doctoral network is best created on the basis of pre-existing research collaborations, and by playing to existing strengths at the various partner institutions. Ideally, the institutions are complementary to each other regarding their research and teaching portfolios, working together to give the students training and a widening of their research horizon across the entire sub-discipline the network intends to cover.

More information on the project:



The Marie Skłodowska-Curie Actions (MSCA) support researchers at all stage of their career across all disciplines. The MSCA also support cooperation between industry and academia and provide innovative trainings and career developments.

The MSCA Innovative Training Networks (ITN) support competitively selected joint research training/ doctoral programmes, implemented by partnerships of universities, research institutions, businesses, SMEs from different countries across Europe and beyond.

The MSCA-NET project is the MSCA NCP project to facilitate the transnational cooperation to achieve a consistent and harmonised level of NCP support. The scientific community can also profit from our project to support their MSCA application.

