Virtual worlds are en vogue. The industry spends fantastic amounts of money on Virtual and Augmented Reality technology innovators. Games–related programmes of study are emerging throughout the country.

Virtual worlds build a strong case for future markets as they are meant to be seen and witnessed first hand. Next to video games (which represent an enormous market) these technologies are currently especially interesting for sales, education and training. These domains immediately benefit from the technology despite pre–rendered contents and very narrow corridors of interactions. By means of realtime simulation techniques, other fields such as logistics, design and empirical sciences will equally benefit in the near future.

One example, which I will detail in this presentation, is the BOODLE project. It stands for BiOLOGical DeveLopment Environment and is an interactive simulation platform tailored towards the needs of experts from the domain of Biological Development. Its concrete goal is to allow domain experts to quickly prototype models of virtual cells that result in different morphogenetic processes and formations. We utilise current state–of–the–art Games Engineering technology in order to address the multi–facetted requirements of such a system.

Based on this example, I will present the different Games Engineering technologies that need to work together and introduce some of the field’s currently most pressing research questions.