This is a reflection regarding the research done for P2, the steps taken for P3 and the final decisions made concerning P4.

During the research for P2 I was looking into the possibilities, the suitability and applicability of plastic composites as an earthquake proof building. In my research paper I had a look at the architectural and structural possibilities comparing the strength, weight, connectivity, ductility, the production process and references. As a result, I found that a material consisting of carbon fibre and polymers is ideal when retrofitting a building in an earthquake area. The most important aspect for the next phase was to look at how I could implement this material in an expansion for heritage in Groningen. This expansion should prevent gross damage and should be designed in a proper architectural, structural, aesthetic way which showed the appropriate respect towards the heritage. The chosen heritage object was a vacant old town hall designed by Berlage in the twenties of the last century.

In the process towards the design, during P3, different ways were investigated of creating such design, while making the most of the favourable structural properties of the material. It made sense to use plug-ins like Grasshopper in Rhinoceros for the form finding. The flow of forces and possibilities of a polycarbonate are the major aspects in the form finding and designing process. This resulted in a P3 design that showed a futuristic, curved and wired design resembling the 2014 ICD/ITKE research pavilion in Stuttgart.

This design however proved to show the wrong contrast with the architecture, the structure, the form and the overall idea of the Berlage town hall. Hence, I left the polycarbonate for what it was and created a new design following no principles, but the basics of Berlage and the structural requirements regarding earthquake retrofitting. The overall process was time consuming, thus it resulted in my decision to postpone the initial P4.

Anyway, this change of course showed to be the right decision. The current design proves to be a suitable structural solution that could prevent gross earthquake damage, while showing the appropriate respect to the town hall of Berlage in principles of the architecture, structure, module size, materialisation, aesthetics and the overall spirit of Berlage. This design creates new usable floor area in the form of an expansion, which additionally supports the building in an earthquake.

At the moment the town hall of Berlage is vacant, which is quite unfortunate. Thus, I’ve thought of a new function for the building. There is a significant chance that Tesla will build a factory in the area for car batteries. The building will therefore be transformed into a sales and marketing office with additional restaurant and exposition space. In my opinion this Berlage building is a piece of art itself, breathing the spirit of Berlage and the twenties. Making use of mostly glass, ETFE, columns, cables and beams, this expansion does not only provide extra exposition space, but does exhibit the town hall itself. The carefully designed details made by Berlage will be revealed and illuminated.
My retrofit of the building using modern materials like steel columns, beams, aluminium frames, and polycarbonate cables shows a desired contrast with the current town hall, which is made out of mostly bricks and concrete. The overall design shows no lack of respect for Berlage, but enhances it by creating a new function for the building, protecting it against earthquakes and, through a careful architectural design, crowning the building by, figuratively and literally, upheaving the building, and exhibiting the details and overall form of Berlage’s initial design.

One could say that it is very tricky and daring to just think of altering a design of Berlage. But I think this design shows a respectful and appropriate way, taking the vacancy and, most importantly, the earthquake conditions in awe.