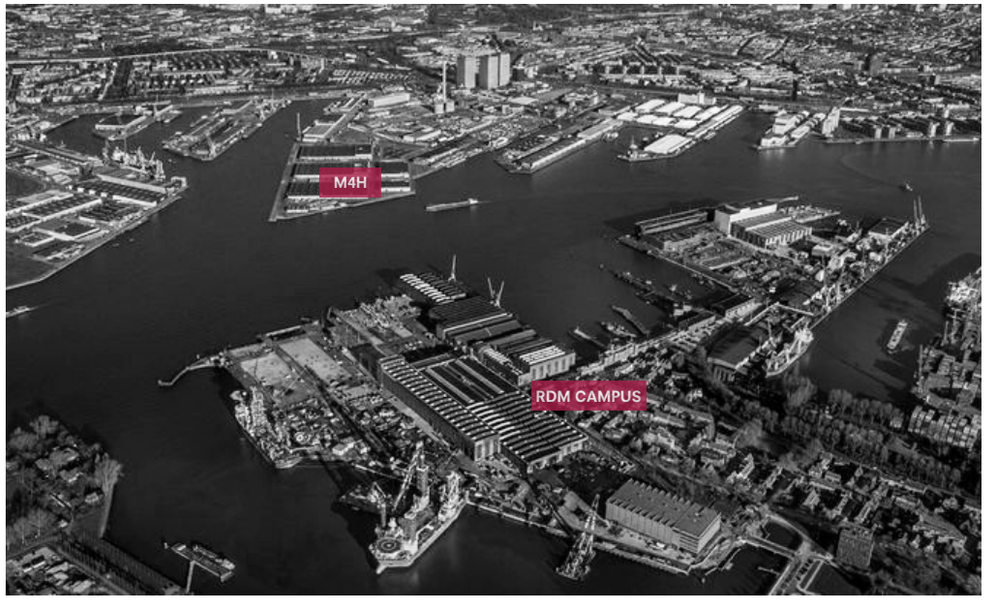

Figure 13: *Aerial of Rotterdam Port and Makers District (Port of Rotterdam, 2020)* Source: https://www.portofrotterdam.com/en/news-and-press-releases/rdm-rotterdam-and-m4h-rotterdam-together-form-the-makers-district

Figure 14: *Waag Textile Lab, Amsterdam (Circl, 2020)* Source: https://waag.org/en/article/experimenting-alternative-textiles

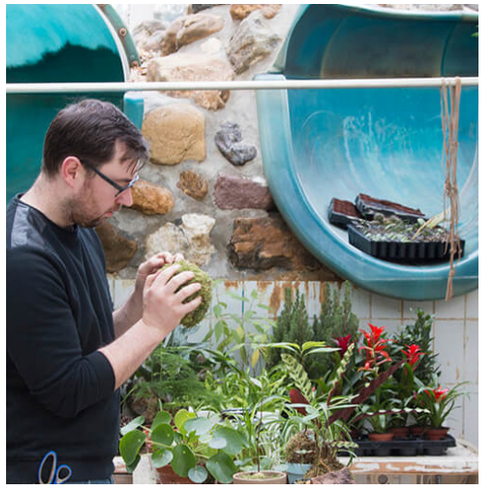

Figure 15: *Blue City Labs, Rotterdam (BlueCity, 2020)* Source: https://en.rotterdampartners.nl/stories/bluecity-circular-playground-with-balls/

5.4.1 Maker Labs

Apart from food production, more self-sufficient and resourceful communities can be realised through Maker spaces and labs for circular product creation. Recent research has been carried out regarding the potentials for recycled waste and bio-based material in the production of consumer goods, such as clothing and craft products. Food waste and matter, bacteria and enzymes can be used to develop innovative materials such as Nullarbor and Woocoa that can be made readily available for use as fabrics. Moreover, food and crop waste can be utilised for the creation of dyes and a variety of sustainable products "from insulation panels to phone cases" (Hitti, 2019). Furthermore, 3D printing technology has changed the way that products can be efficiently and locally manufactured, with sustainable materials for printing being researched and developed. Examples of thriving and innovative maker spaces within the city include the Rotterdam Maker's District, located near the Port. The district showcases technological approaches towards manufacturing, robotics and material science as well as flexible spaces for the co-creation and production of innovative developments. Another example within Rotterdam include the BlueCity, which promotes the blue economy, zero waste and circular lifestyles. BlueCity opened the world's first circularly grown organic lab for the development of "materials and products of the future" using biocircular design and biobased technologies (BlueCity, 2020). The labs are supported by workshops, enabling innovators to design and create products.

6 Conclusion & Global Relevance

To conclude, the historical and case study research can be integrated to inform a new typology for the marketplace. The investigation into the Migration of Marketplace establishes the possibility for a new function of local production and exchange through the market, by migrating the concept of the ancient Agora as a space for both craftsman and merchants. The research further establishes how the new programmes of urban farming and making can be integrated within a hybrid market typology to demonstrate the sustainable values of prosumerism. The adopted programmes tackle the wider global issues of unsustainable consumption and resource depletion whilst addressing Feijenpoort's local issues of neighbourhood deprivation. Furthermore, by understanding the interventions within the existing Afrikaanderplein Market on the site, entrepreneurship strategies within the Productive Marketplace can be better informed and interventions can be developed to support the existing Market. The new Marketplace can therefore establish a migrated programme that integrates enriching spaces for sustainable growth, research labs, workshops, incubator spaces and a retail market hall. Through the research, the project envisions a system that facilitates social cohesion, the exchange of knowledge, culture and innovation and aims to form the basis for a new model for Productive Marketplaces. These interventions can be implemented globally to promote the use of sustainable resources and business opportunities in regions that are faced with poor socio-economic conditions. Through this, the project further aims to provide the people of Feijenpoort with new potentials for employment and community engagement.