MODULAR EXHIBITION BOOTH CONCEPT

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Abstract

This graduation project showcases a trade show booth setup concept for Hollolan Viilu ja Laminaatti Oy. The booth was designed to work in multiple different venues as a modular set over a three-year life cycle, thus longevity and usability were big design drivers for this project. Using a single booth setup for three years is considered unconventional in the events industry. Because of this, extensive research had to be done to find rigid and robust materials while also keeping the component weight and cost down. As sustainability is a strong value for the client company, material and build choices were made with recyclability and sustainable design thinking in mind.

Most of the design work was done in a 3D CAD environment. Structural and material planning was done in co-operation with HVL. The result was a concept of a booth design that would be further refined after the graduation project and premiered at Puu 2021 trade show at the end of Q3 2021. Final design was delivered as CAD model renderings and technical drawings.

Key words; modular, exhibition design, sustainability

Figure 01. HVL Marketing material 1 (Hollolan Viilu ja Laminaatti 2021).

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1. Introduction

1.1 Introduction & Project Brief

This graduation project presents the design process of a trade show booth setup concept for Hollolan Viilu ja Laminaatti Oy (HVL).

The brief of the project was to create a multi-use modular exhibition booth, which can be built up to multiple different configurations required by different exhibition venues. The set must be viable logistically, and it should not cost more than 5,000€. The client would also prefer that the production of the booth and the usable materials should come from in-house sources as much as possible.

The booth's main purpose would be to promote Hollolan Viilu & Laminaatti's product line-up in different industry exhibitions such as Puu 2021 and Habitare Pro.

Figure 02. HVL Marketing material 4 (Hollolan Viilu ja Laminaatti 2021)

1.2 Research Questions & Scope

The project's primary objective is to research the possibilities of creating an exhibition booth with a longer service life than a standard unit. The drivers behind the objective are to find a higher return of investment for the exhibition booth, and more sustainable use of materials. Emphasis was put on creating an effective marketing tool for F2F marketing, and how the booth setup can support the customer experience as a first contact point.

The secondary objective is to design a modular booth system that can be adapted to different events and venues without the use of extra parts or carpentry. The setup should be logistically viable, and quick to assemble with limited staff. Modularity of the booth will also support any future additions/modifications that are required as HVL's product line-up changes and expands.

As the final design of the booth is dependent on partnership deals and product development, this project's deliverable will only be a concept of the final construction and form. The physical booth's construction has been scheduled to happen in the third quarter of 2021 after further development.

1.3 Client and Stakeholders

The client of the project is Hollolan Viilu & Laminaatti Oy. HVL is Finland's leading veneer and highpressure laminate provider for interior- and furniture design. The company has been running since 1994 and was selected as the best company in the woodworking industry in Finland in 2018.

Minna Myöhänen is part of the project in the role of a peer reviewer. She is a second-year interior architecture student, thus she is able to bring niche design knowledge into the project by giving feedback from interior architecture standpoint.

The instructor and reviewer of my graduation project is my coordinating lecturer Lee Walton.

1.4 Workflow & Timeline

Timeline for the project was limited, as the topic of the project was changed at the start of 2021. The project had to be brought to a concept stage within a time window of four months. This meant that some of the work had to be done within less time than originally planned, thus a very linear development process was created for the project.

Due to the COVID19 pandemic, the plans of creating a scale prototype or a model of the booth were denied, as there was no access to sufficient production machinery. In turn, this opened more time to be used in developing a better and more accurate CAD model in 3D workspace as well as exploring comprehensive ways to showcase the project through digital platforms as required by the pandemic.

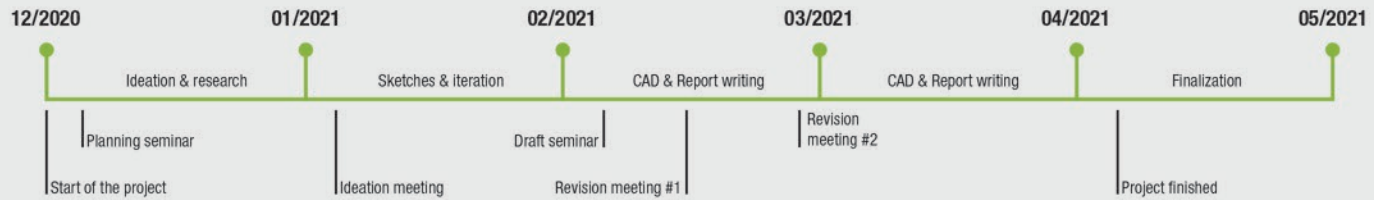


Figure 04. Project schedule

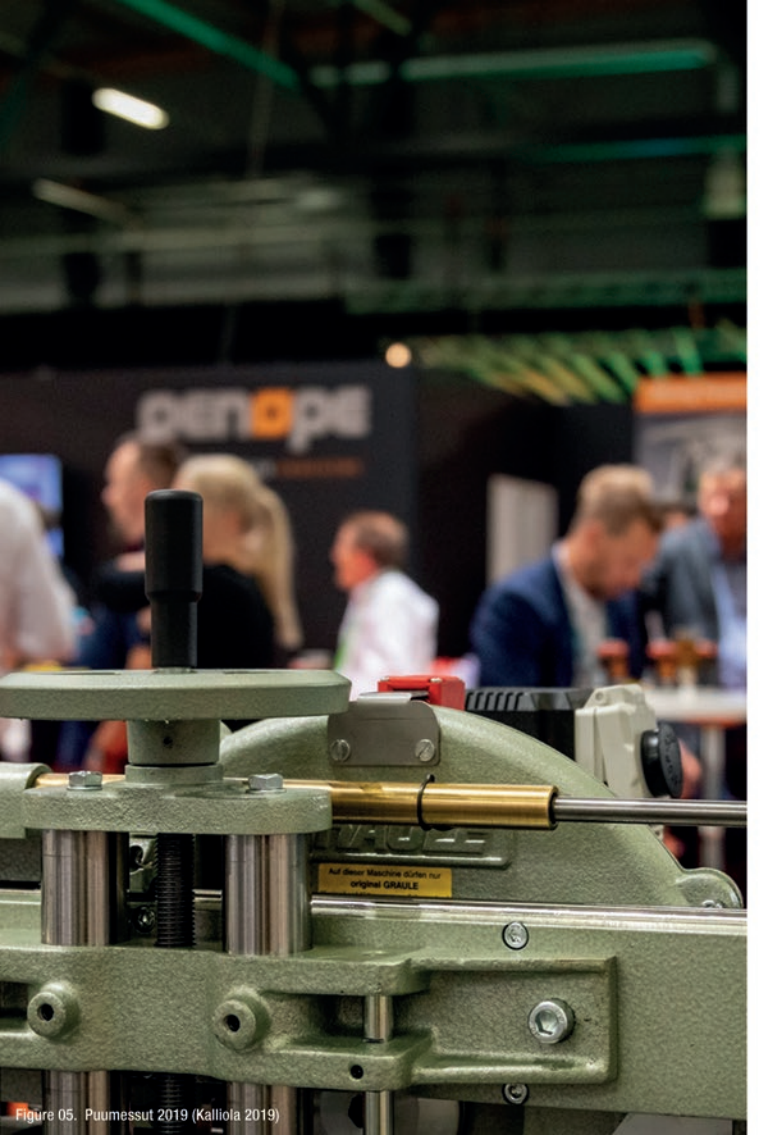


Figure 05. Puumessut 2019 (Kalliola 2019)

2. Research

2.1 Benchmarking

Photos and videos from national trade shows regarding the woodworking and design industry such as Puu 2019 and Habitare Pro were used as benchmarking material. Concentration was directed purely to national trade shows, as the complexity of the international trade show booths increases due to higher marketing and exhibition budgets by bigger companies, thus it was not seen as relevant information. HVL also operates primarily in the Finnish national market, thus that was considered as the requirements for the project.

A strong baseline was established on the visual requirements of modern exhibition booths. Concentration was on small and mid-sized setups, as the bigger and more expensive booths were usually equipment or machine manufacturers, which do not compete with HVL. Geometric non-symmetric designs are clearly the most common design language that you'll find in a modern trade show booth. Some of the designs that I came across were rather expressive and unconventional. These types of hero pieces bring a lot of visual value to the set, but especially in bigger sizes they tend to be difficult and expensive to construct.

Usage of muted colour palettes was a clear new trend especially in booths that were premiered in events related to architecture or interior architecture. Clearer more vivid colours were chosen for more industrial companies such as equipment and tool manufacturers. Another evident trend was the usage of wood colour and texture in the booth assemblies. This ties in well with current sustainability megatrends and general trend of using wood as a surface material in interior architecture and furniture design. This lines up well with HVL's brand as the aforementioned things are directly related to the company's operations.

Figure 06. Blanco booth setup

2.2 Structures

The three major structures in a trade show booth are the walls, flooring and the overhead elements that hang over the set or rest on top of it. For the design of the booth to be functional and viable, the framework must be rigid and robust. In addition to the structural elements of the booth, furnishing is added to bring desk and sitting space into the booth.

Offering for trade show booth structures is vast both in materials and actual structures. While some solutions are visually more pleasing and unique, they may not function well for more than one event, or some may be logistically or budget-wise not viable.

2.2.1 Overhead Element

The overhead elements tend to encapsulate the booth and give a stronger sensation of space and scale. From the gathered data you can roughly split these overhead elements into two categories; free standing and truss mounted. Free standing elements are usually connected to the rest of the set, or they pass over the booth, which makes them easier to construct and install. Though they do require more engineering in order to be incorporated to the rest of the set safely.

Truss mounted elements are a superior solution as their floating look gives a more refined look to a booth. The problem with truss mounted solutions is their high strength requirements, and the need to consult a specific venue host in order to get them mounted properly. As a case example, Paviljonki, the organizer of Puu 2021 trade show classifies all constructions that are higher than 2500mm as oversized elements and they must be ratified by the event host separately separately (Paviljonki 2021, 1). This combined with the fact that HVL's set must be modifiable to suit different venues prohibits truss mounting.

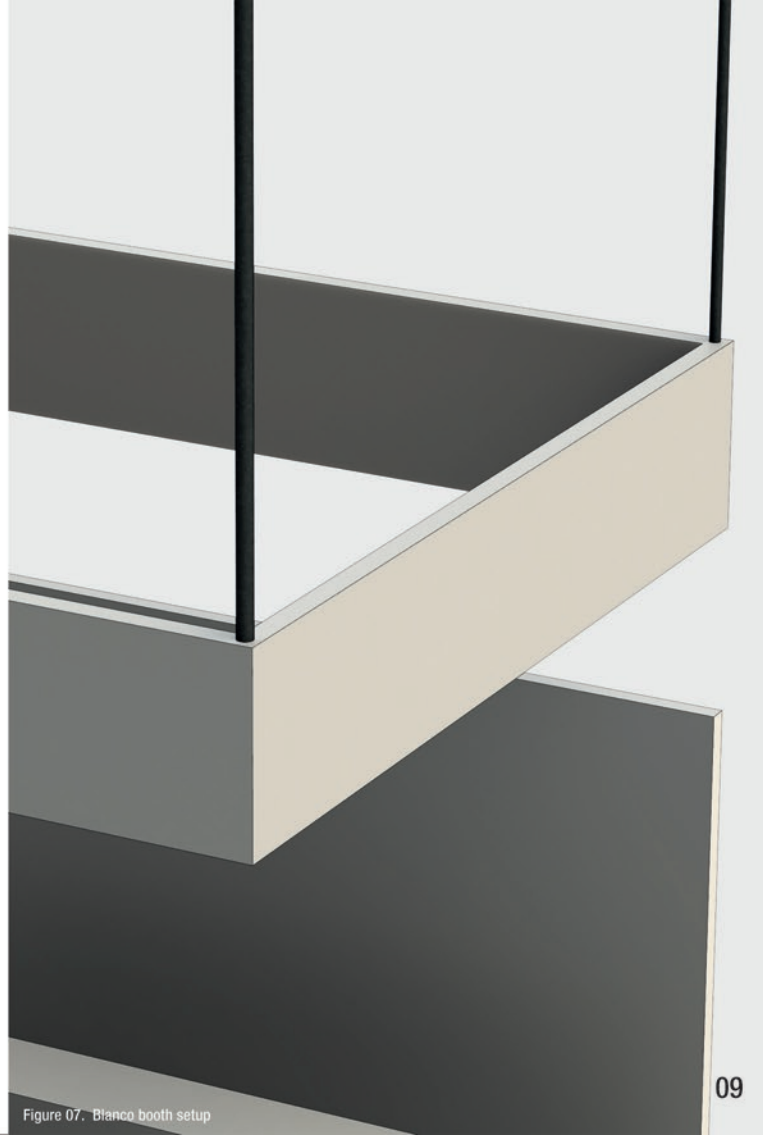


Figure 07. Blanco booth setup

Figure 08. HVL wall panel

2.2.2 Walls

As the set would have to be mobile and modular, the requirements for the wall panels were to be light, easy to assemble, rigid and durable. Easiest and cheapest option for the walling would be plastic, but as the set should be as sustainable as possible, thus following one of the core values of the company, usage of plastic would have to be avoided as a building material during the design process. This also removes the possibility of using any sort of pop-up fabric walls as the mounting structures are usually plastic.

Solid wood would be extremely rigid, and it would fit the theme and brand of the company well, but due to it being extremely heavy logistics would become a problem. The choice was made to use MDF based wall panel products from HVL´s own catalogue, as the material is relatively light, easy to work with and affordable. The wall panelling would also act as a great proof of concept when showcased in real life conditions at a trade show.

The final construction of the walls was a choice between two structural methods and two choices of panelling. For the structure, the first idea was to use a very basic timber wall frame behind the panelling. Timber would be readily available, cheap and easy to work with, but multiple assembly cycles could reduce the integrity of the wall frame as everything needs to be mounted by screws. Secondary option was to use a cage frame made from metal profile. While being more expensive to produce, the metal frame would be robust, rigid and it can endure the multiple assembly cycles with proper fastening methods. Primary choices for the wall panelling were MDF tongue and groove board or MDF panels. While non-machined MDF panels would offer more possibilities for different shapes and geometry, the tongue and groove board panelling is easy to install, lightweight and easy to transport in stacks.

2.2.3 Flooring

The two most common flooring materials for exhibition booths are polypropylene carpet and laminate flooring. Carpet is the more affordable option of the two, but longevity may become an issue as maintaining the carpet over 1-3 years can be challenging. Exhibition carpet also tends to rip if not handled carefully. Most exhibition carpets are considered as a single use item and are discarded usually at the venue after each event.

Laminate on the other hand is more expensive, but also gives a higher quality look and feel to the booth and withstands heavier use. The down sides of using laminate flooring are heavier weight and longer construction time.

In the initial stages of designing laminate was chosen as the preferred floor material due to a more sophisticated look, and the wood texture went well with the veneer panelling on the walls. After the second revision meeting with the client, the decision to dump the laminate flooring was made, as HVL sells only high-pressure laminates and not flooring products. Having laminate flooring may cause misunderstandings for the visitors, which would produce cold leads for HVL.

Polypropylene carpet was chosen as the final flooring material for the booth. Due to the modularity of the booth, 1000x1000mm carpet squares were selected over 2000x8000mm rolls. A thicker carpet type was chosen to compensate for the lesser longevity of carpet flooring in order to prevent frequent renewal.

Figure 09. Booth details

Figure 10. Stand isle

2.2.4 Furnishing

Everything that is not a rigid structure on the set is considered booth furnishing. Usually, the furnishing on a booth setup is simple, including some seating area, front desk and table space. The nature of the industry and company exhibition plan influence the type of furnishings required in a booth. For example, secluded seating and table space is needed when sales are done on the show floor during the event, but a material or an equipment manufacturer may require more isle space in order to showcase possible sample pieces or items. In HVL's case the wall panelling on the booth itself acts as a proof of concept of their products, but extra isle space was requested in order to facilitate the showcase of multiple different surface finishes and materials that are available.

A 4000x800mm moving isle was incorporated to the set to act as table space for samples and promotional material. As an additional function to the the isle, the frame of the isle is made from four 1000x800mm made to measure cargo boxes that can be used to transport the wall panelling, fasteners and other booth elements safely and easily.

Seating space was not a priority during the furnishing planning, as visitors would be viewing the sample pieces while standing, and there was no need for any sort of a negotiation nor sales space.

2.3 Sustainability

Most commonly exhibition sets are designed and constructed to cater for specific venues or events. Being a very important piece of a company´s visual presence in a trade show, it is paramount that the visual identity of a said company is conceived to be up to the latest standard. Reusing same materials and designs yearly will generally have a negative impact on a company´s brand as the dated look won´t provide any visual nor innovative value to a possible lead. This was a primary concern when the client stated that the booth set must have a two-to-three-year life span, and that it will be used in multiple events and trade shows.

The set will not survive the full three-year cycle without minor facelifts, but the concern now was to create a set that can be modified with relatively small budget and effort in the future as well. This led to the idea of modularity, which is currently in 2021 a very strong trend within interior architecture. For the set to remain relevant and upgradable over the years, the base construction must be designed so parts or units can be changed or modified to affect the look, size and functionality of the booth. Modularity also enables the set to be used at HVL´s office as a showroom, which provides additional value to my client.

Another frailty of common modern-day exhibition setups are the used materials and recycling of said materials. It is common practice to use single-use materials and structures, which will be discarded at the end of the event. In this case the venue host is responsible for recycling these materials if such materials can or will be recycled at all. Probably the most common single-use material for trade shows is exhibition carpet. Worldwide only three percent of carpet waste is recycled, and 56% of carpet waste ends up at landfills in the UK (Belleville 2018). Whereas some venues and event hosts take great care of organizing proper recycling for trade show waste, it cannot be always trusted. Thus, the choice was made to make a set that creates very little no waste per event as the set-up is reusable and as recyclable as possible.

Biggest problem in terms of recyclability for the setup is the MDF board that's being used as a backing material for the veneer wall panels. While being an extremely versatile and robust as a material, MDF is difficult to recycle due to it having resin bonding agents that hold the fibreboard together. MDF boards can be recycled, but the process requires a lot of energy and water usage. (Greenxchange 2014.) MDF also has high levels of toxic formaldehyde, which is linked to high rates of nose, lung and throat cancer within workers who are exposed to the compound. (Junk Run 2020). As substitutive backing material for the wall panels was not available in HVL's catalogue, the MDF board had to be used regardless of it's down-sides.

HVL´s veneer products are FSC certified, which means that 97% of HVL's veneer comes from FSC controlled wood or FSC 100% origin. This ensures that the materials come from a well-maintained forest. FSC certification confirms that the forests that the wood material comes from are being managed in a way that preserves biological diversity and benefits the lives of the local residents, while ensuring that it sustains economic viability. (Forest Stewardship Council 2020.)

To maintain and add value to the company´s sustainable approach, I´ve decided to maximise the use of easily recyclable materials such as wood and steel. Most of the wood products will be manufactured at HVL´s own factory, thus further enhancing the sustainable approach to this project. Secondary plus of in-house manufacturing of the set were low production costs.

Figure 11. Forest (Vradenburg 2019).

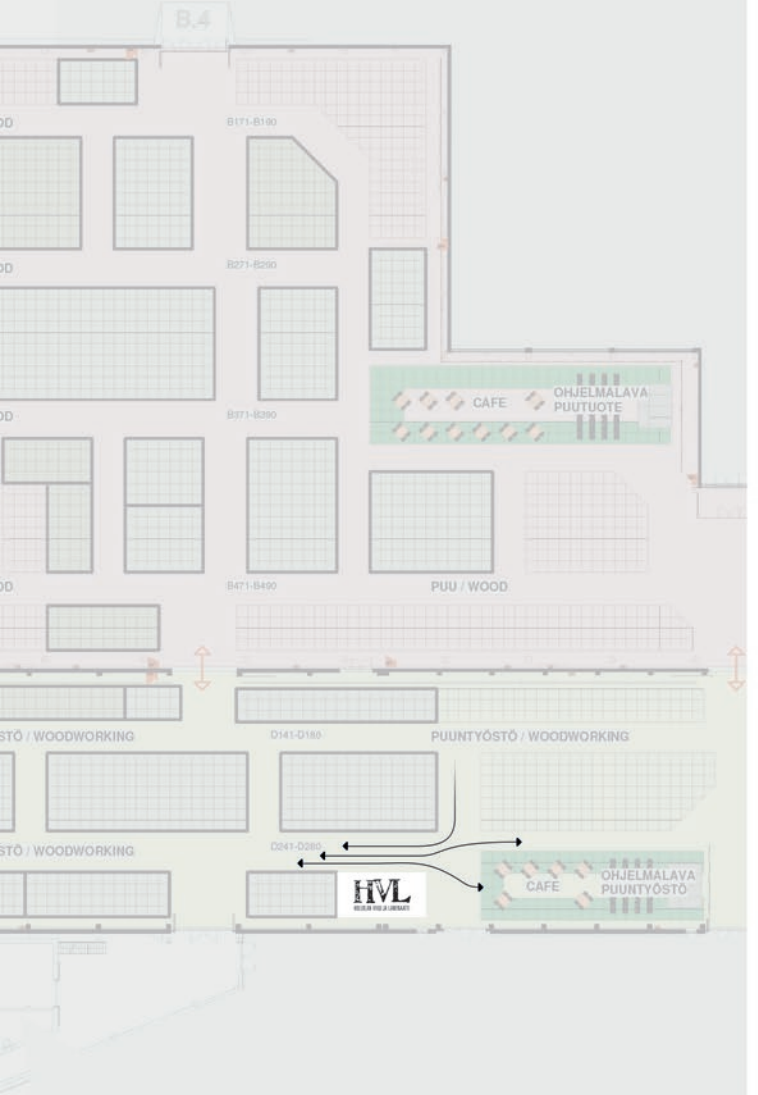


Figure 12. Puu 2021 floorplan (Puuliitto(-2020).

2.4 Traffic Flow

To maximise the exposure and floor space of the booth, the traffic patterns should be considered on a per venue basis. This way doorways and paths can be set in a way that naturally attracts one´s interest while walking past the booth. This is very easy with the modular concept, as the setup can be assembled in any orientation or size.

In this case the floor plan of Puu 2021 trade show was used as a case example. HVL´s stand space is going to be 8000x4000mm in size, and located in hall D space 280. The stand area is a corner spot next to a wall with one neighbouring stand. This is not ideal as the stand can only be accessed and seen from one side, thus limiting the possible incoming traffic, though design wise it will be easier to create a visually pleasing set when there is less viewing angles.

Right across from HVL´s stand is a café area and a woodworking show stage. These two guest attractions will increase the traffic around the stand, but only when the guests are going to leave that corner of the hall. It is important, that HVL´s stand is clearly visible from the stage and from the Café, thus attracting more visitors.

To properly make use of the traffic coming in the booth, the layout was designed in a way that promotes easy access in and highlights the samples that are being showcased. Wheelchair users were considered too, and thus the booth was made accessible by leaving at least 1500mm of space on the walk paths (Kilpelä 2019, 2).

Figure 12. Construction (Joralemon 2017).

2.5 Safety & Building Code

The technical details of this project were researched mostly by examining Finnish Building Information Foundation's publishes that contain good practices for construction and design (Rakennustieto 2021). This information was mostly used to get accurate information on furnishing dimensions, viewing distances and accessibility requirements.

Any concrete building code could not be found for trade show booths, but event hosts and venues usually enforce their own building code. This code is quite universal, as almost every major venue host has the same requirements.

Most notable requirements for the setups were 2500mm maximum height and walls that covered any sides that are towards a neighbouring booth. The rest of the documentation was rather ambiguous in terms of cleanliness, visual fidelity and safety with no real restrictions nor requirements applied. (Paviljonki 2021).

2.6 Materials & Colour Research

Proper choice of colours and materials is crucial when designing a space, as interior spaces have a strong psychological impact on a person. Different colour tones can radically change the overall mood of a space. As an exhibition booth's main driver is to attract possible leads, it is important that a very specific mood can be translated to the visitor while visiting the booth. (Best 2017, 317-324).

Veneer was selected as the primary material for the booth, as it is the primary product of HVL. The wall panel materials were split into two different concepts, light or dark veneers. Whereas darker veneers promote feelings of warmth, exclusivity, sophistication, reliability and respect, lighter veneers create a larger sensation of space and a feeling of cleanliness, clarity and efficiency. (Best 2017, 325-328). HVL´s veneer product line-up consists of 43 different veneer styles, thus the client wished that a relatively good selection of veneers should be visible on the booth itself. Mixed palettes were tested too, but visually they were inferior and gave a lesser quality look to the booth than organized pure light or dark veneer combinations. Mixed palettes created also a psychologically restless visual, which did not create feeling of attraction or interest.

High pressure laminates are another substantial product category for HVL, thus they had to be included in the booth in some way. Different concepts were created to test out the visual impact of HPL´s both in light and dark colours alongside the veneer panelling. These concepts were presented to the client for further review.

The stand isles would be the highest use items in the whole set, as the sample sets and other promotional material would be stored on it. As the isle frame would act as cargo boxes for transportation of the set, longevity of the materials would be a priority. Fenix NTM was chosen as the countertop material for the stand isles. Fenix NTM is a smart nano material with anti-fingerprint and thermal healing capabilities. (Arpa Industriale S.p.A.). This makes it a viable surface material for heavy-use applications such as exhibition stands. Extensive use of the countertop will create micro-scratches and swirls on the top layer that is exposed, thus negatively impacting the visual fidelity and colour tone of the material, thus Fenix NTM's thermal healing capabilities will ensure the longevity of the countertop. The selected colour for the countertop was 0720 Nero Ingo. The countertop frame cargo boxes will be constructed from solid wood with a varnish surface finish.

The client preferred the lighter coloured colour and materials palette as it would add some contrast to the metal frame that´s powder coated in matte black. (Kuokkanen 2021). Greater HPL integration to this project will remain unsure.

Figure 13. HVL Veneers (Hollolan Viilu ja Laminaatti 2021).

Arpa Industriale

1. Fenix NTM 0720 Nero Ingo

Hollolan Viilu Ja Laminaatti

2. Kuviotiikki
3. Saarni 80
4. Sahatami
5. Kuviotammi
6. Visakoivu
7. Saarni 2541
8. Saumaton Koivu

2.7 Brand And Visual Identity

Maintaining consistency between different visual materials is a required to upkeep the integrity of HVL's visual identity plan. In order to be recognizable in trade shows and other events, the booth must follow the same guidelines for branding and visuals as all other materials. As the set will have a long service time, any possible future changes to HVL´s branding must be considered as promotional materials can get old relatively quick. Modularity of the set helps with this, as materials and elements can be swapped out with ease if required.

Showcasing brand values physically is a difficult task as brand values are perceived to be a general conception of a certain product or a company. (Neumeier 2003, 13.) Thus, best way of messaging such values to visitors in a trade show is to put emphasis on how the visitors experience the company physically via an exhibition booth. The emphasis in this

Figure 14. HVL Veneers & Fenix HPL products (Hollolan Viilu ja Laminaatti 2021).

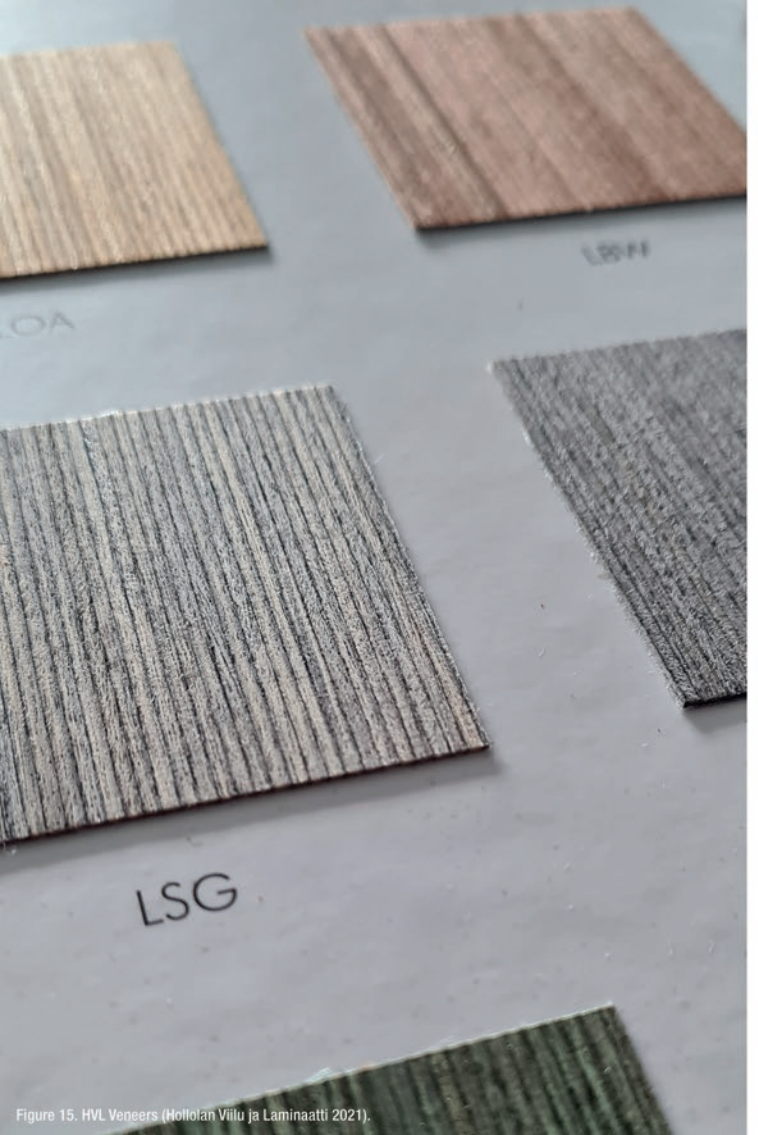


Figure 15. HVL Veneers (Hollolan Viilu ja Laminaatti 2021).

project was put on how the customized HVL products tell a story that reflects the company's brand values and adds to the experience that the visitors have while visiting HVL's booth.

HVL's core brand values mainly revolve around tailor-made products for the client, vast material catalogue and dependable fast manufacturing and sales process. These major brand topics should be evident from the booth. The wall panelling that was chosen to be used on the booth is a physical depiction of these brand values. The wall panelling is CNC machined to a customized specification to fit the extraordinary size requirements of the exhibition booth, thus showcasing the high customizability of HVL's products. As the individual wall panels will have different surface finishes, veneers and high-pressure laminates applied to them, the vast selection of surface materials can be visualized. Different surface material finishes were incorporated into the wall panelling in order to give the visitors a physical feedback when touching the wall panels. This is important as touch and physical feel of a material can create a feeling of quality and craftsmanship for the visitor, thus further supporting HVL's brand values.

3 Design Process

3.1 Ideation

As the schedule for this project was tight, the ideation process had to be done rapidly in order to decide on a concrete scope for the project. Reference material was gathered in order to create visual boards to base the initial designs on. Alongside gathering visual material, the project benefited from the consultation of an interior architechture student. This gave additional information and value to the project, which helped to rapidly develop a viable set of concepts. The visual reference boards were used as the basis of design sketches.

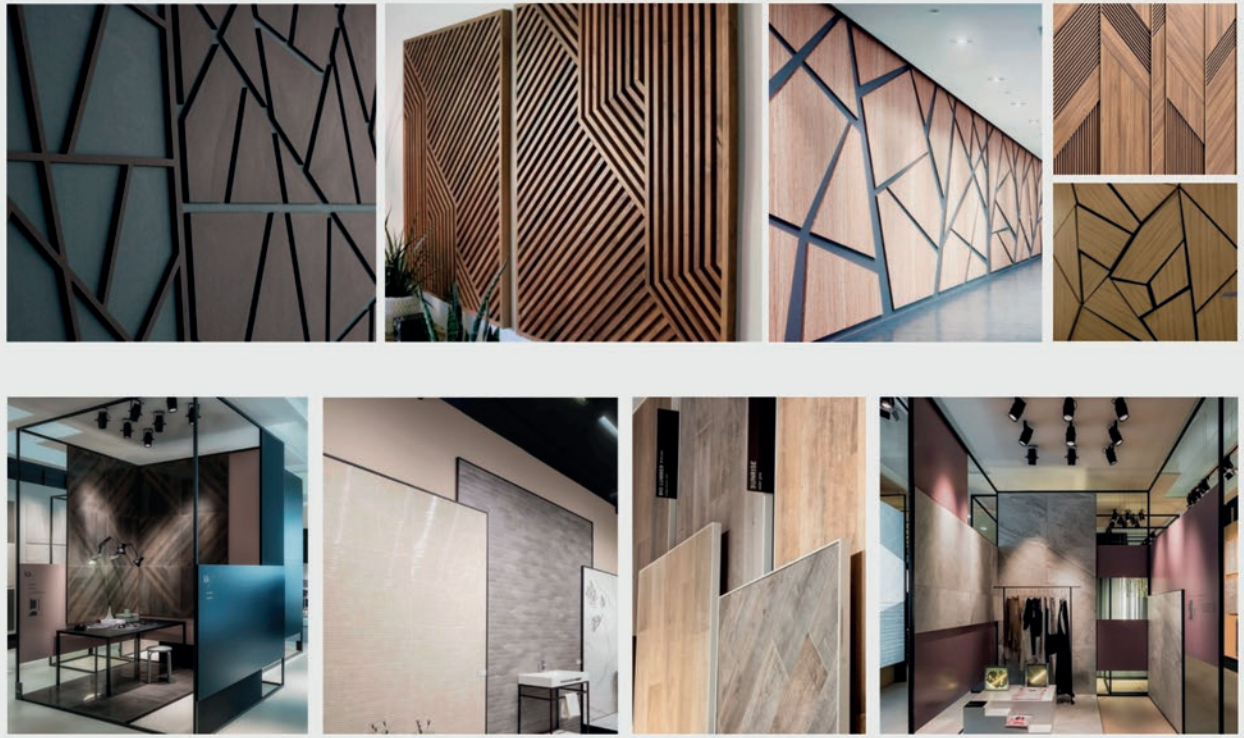


Figure 18. Moodboards

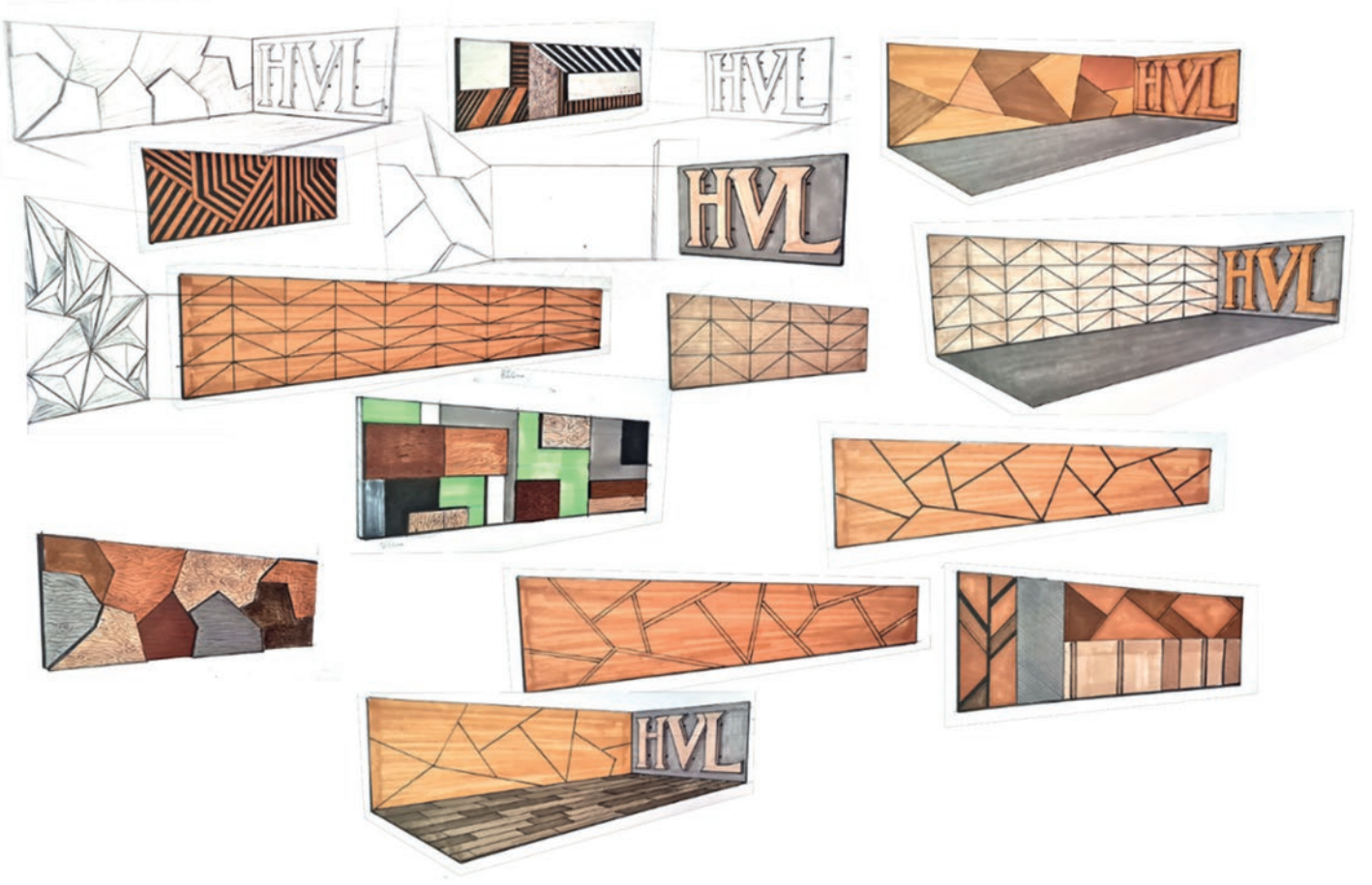


Figure 17. Skeiches

3.2 Sketches

Sketches were used as a tool to ideate various layout and material choices rapidly. The sketches were concentrated to showcase and develop certain parts of the set rather than the whole set. This way new ideas could be tested and evaluated before incorporating them into the rest of the set.

Not a lot of emphasis was put to sketching in this project, as working in 3D space was deemed to provide more information and relevancy to this project even in the early stages. The completed sketches were used as inspiration and a starting point for working in 3D.

Figure 18. Preliminary 3D model

3.3 Early 3D

Working in a 3D environment was deemed as the preferred workflow for this project due to its familiarity. Such interior spaces are also more easily viewable and understandable in a true to life perspective three-dimensional space rather than vague sketches. By working in CAD, I can also use correct measurements, which helps with deciding the final construction and assembly. Solidworks 2019 was chosen as the workflow for 3D modelling.

The earliest 3D models were done to purely visualize the actual size of the full unit when assembled. This was to be used as a reference point for further design iterations in order to correctly fit different panel designs and sizes to these pre-determined parameters.

Alongside prototyping the scale of the booth, the sketched ideas were implemented into the 3D workflow. This way different shapes and constructions could be viewed easily from multiple angles, and they could be modelled in true scale.

The early 3D models did not include any furnishing nor promotional materials, as they were only used to visualize the rough shape and form of the booth. Two different individual concepts were explored after sketching. First one of them being a more solid-structure wall setup with an overhead element, and the secondary concept was a black steel cage that´d act as a mounting frame for all the elements in the booth. The secondary concept was chosen due to its visuals and easier constructability.

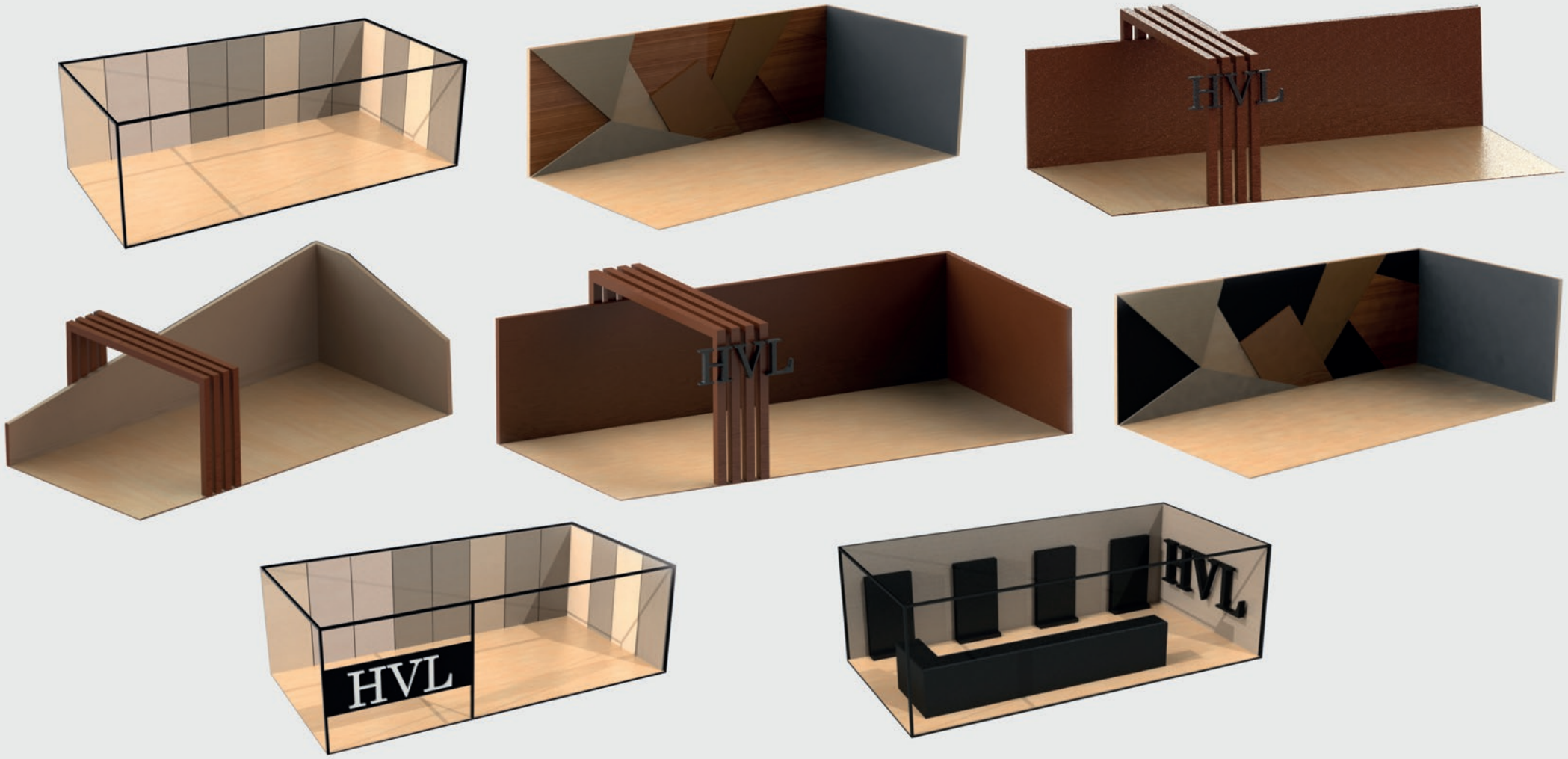
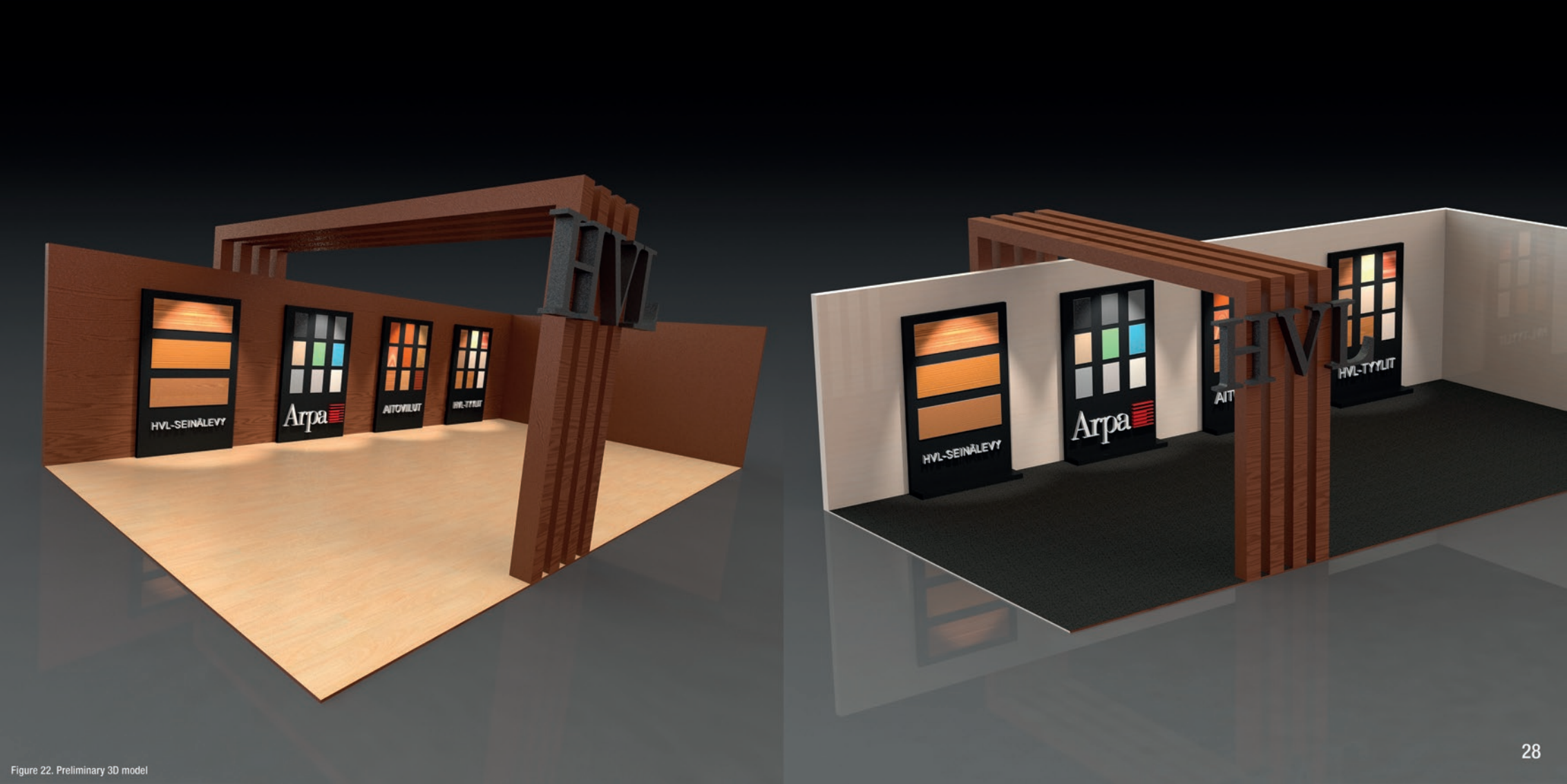


Figure 19. Preliminary 3D model

Figure 19. Preliminary 3D model

Figure 20. Preliminary 3D model

Figure 21. Preliminary 3D model



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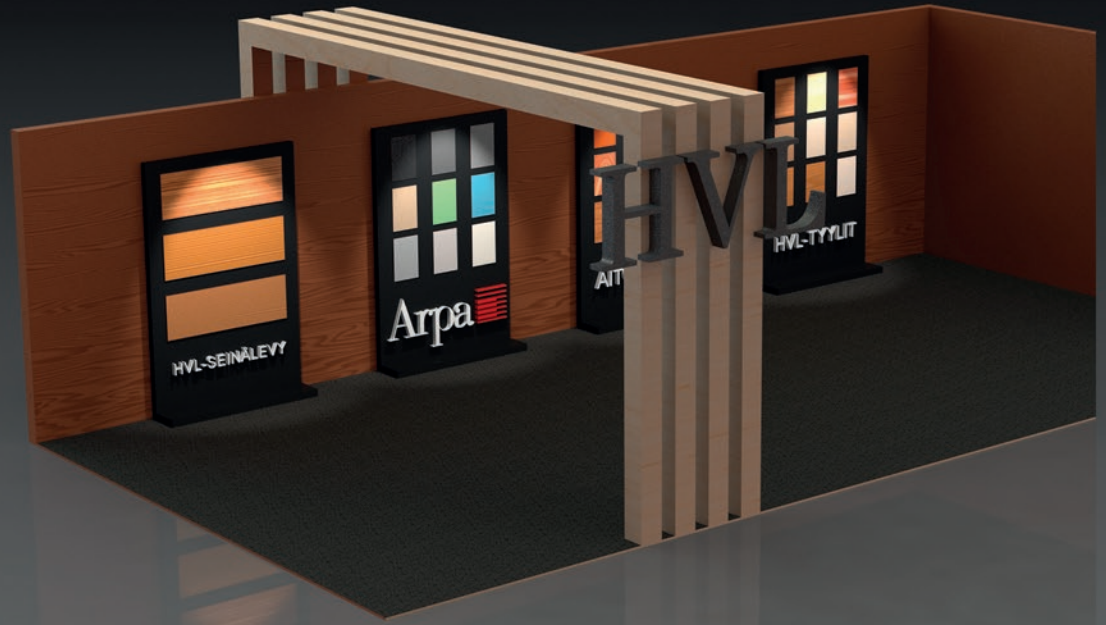


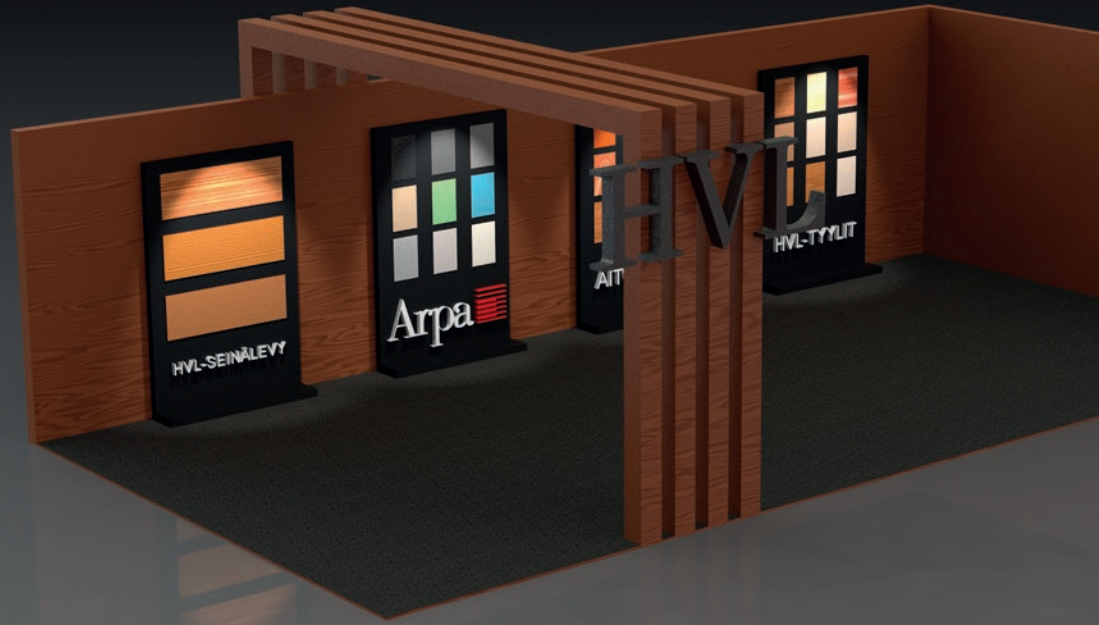


Figure 23. Preliminary 3D model

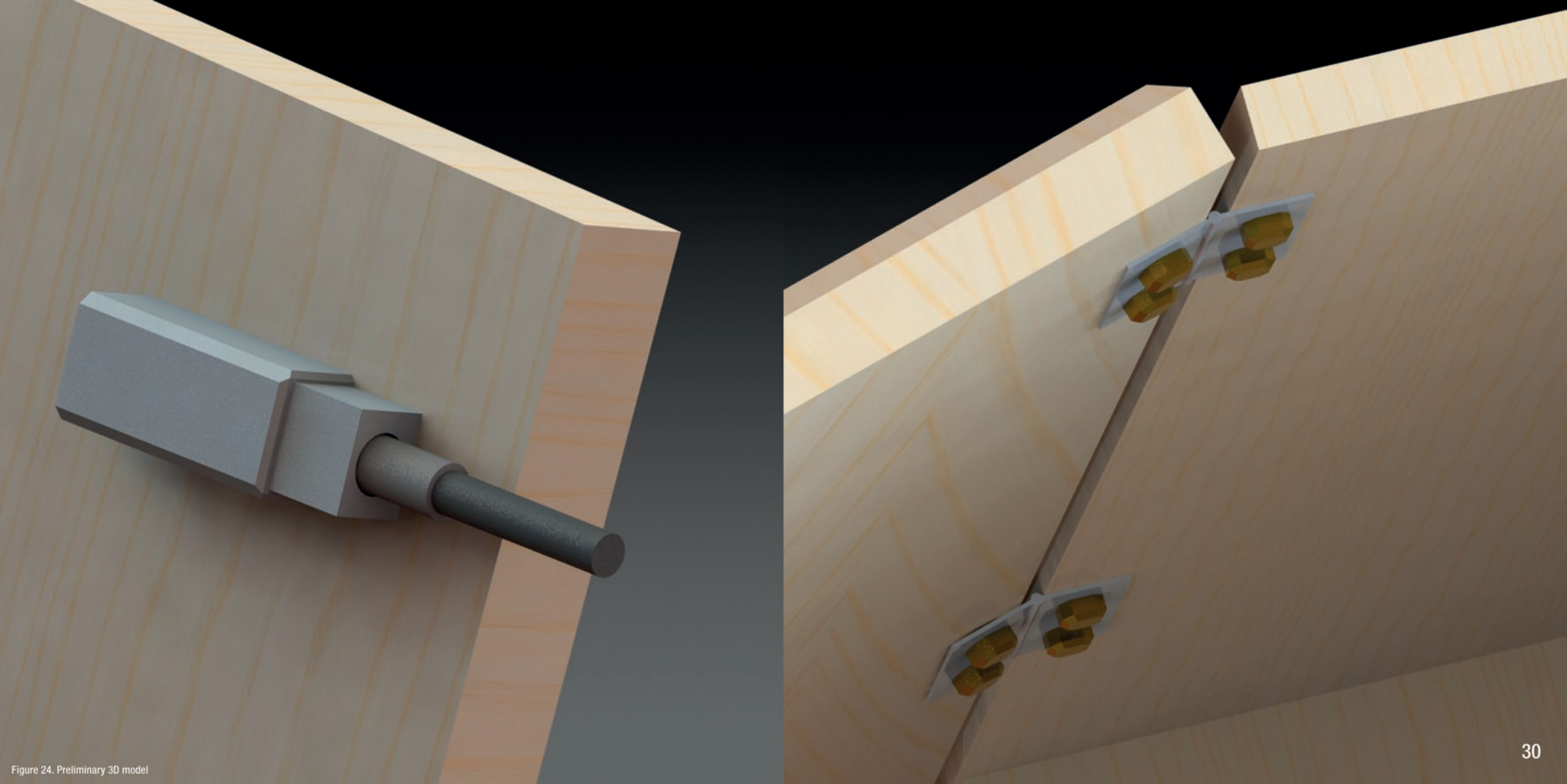
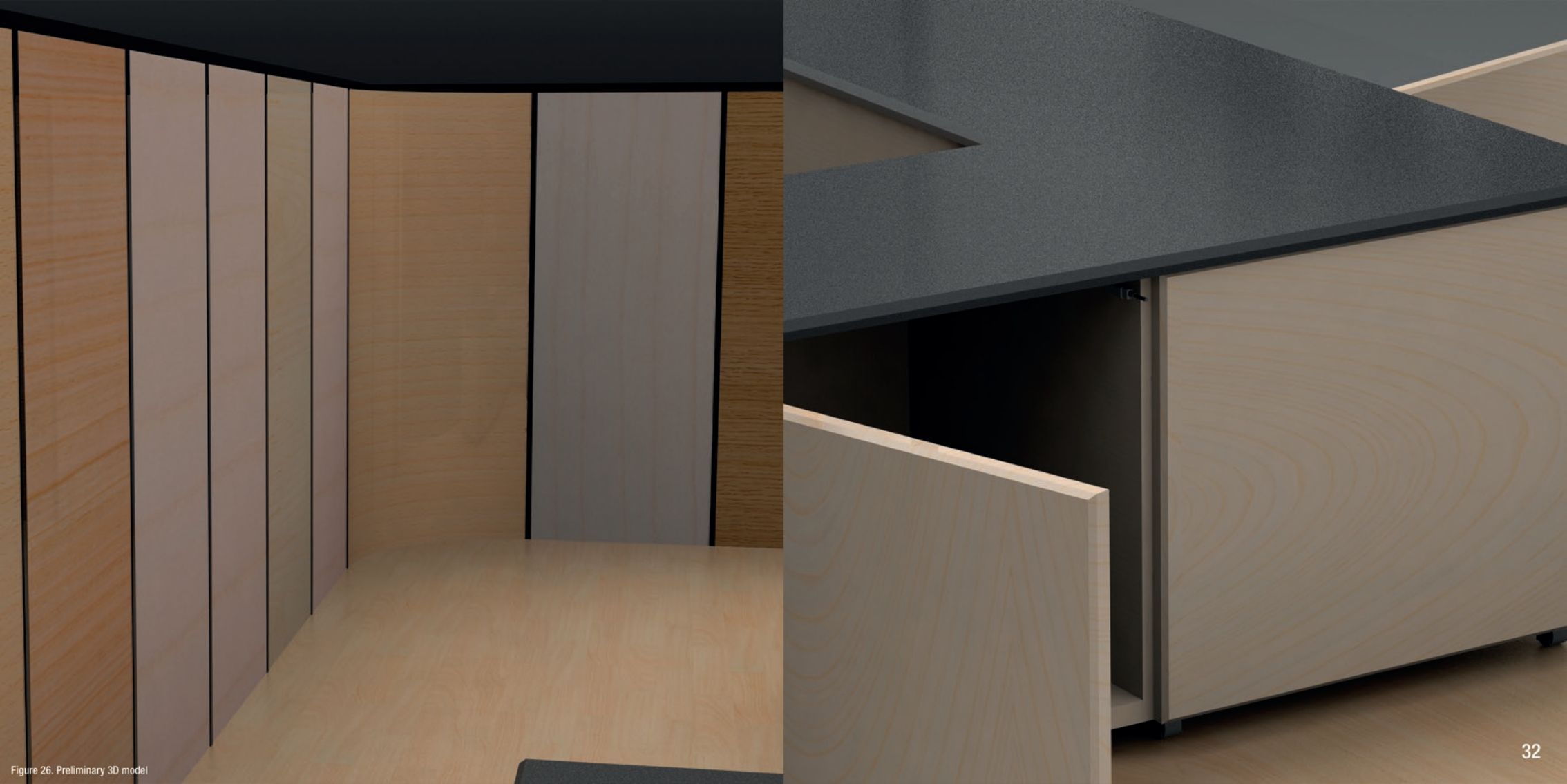


Figure 24. Preliminary 3D model

Figure 25. Preliminary 3D model



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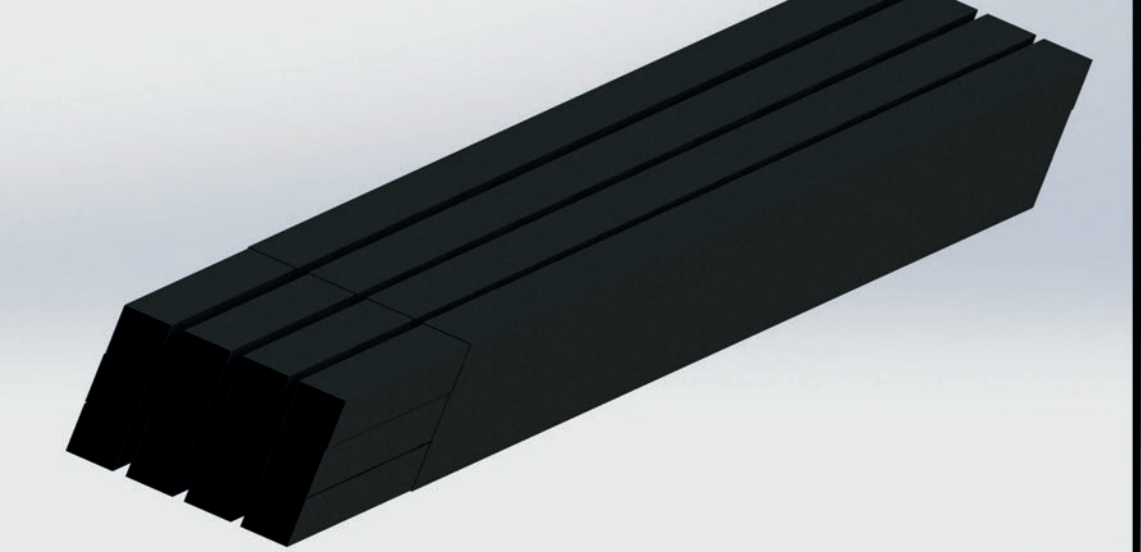


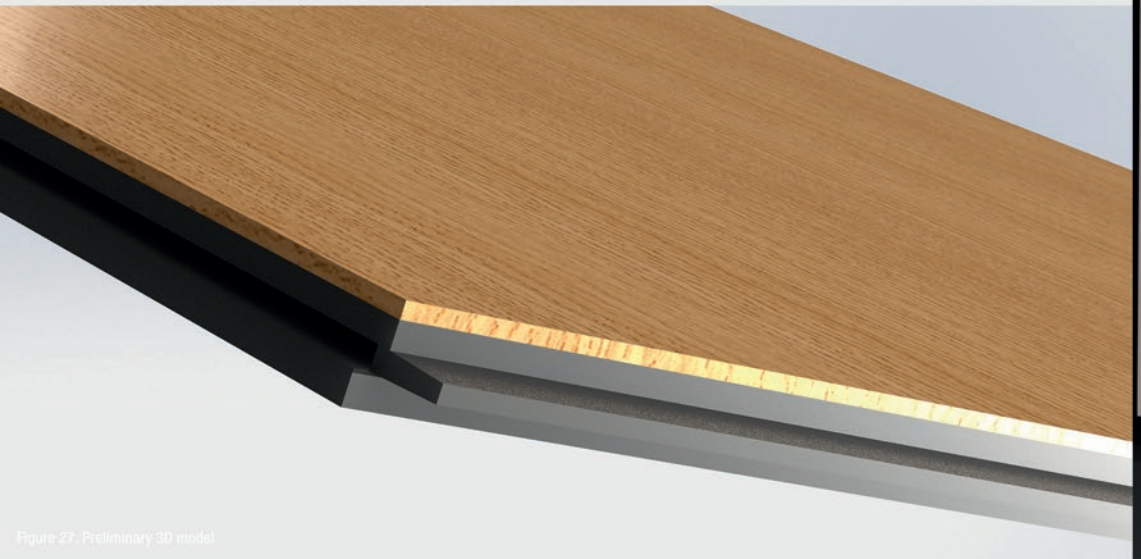


Figure 27. Preliminary 3D model

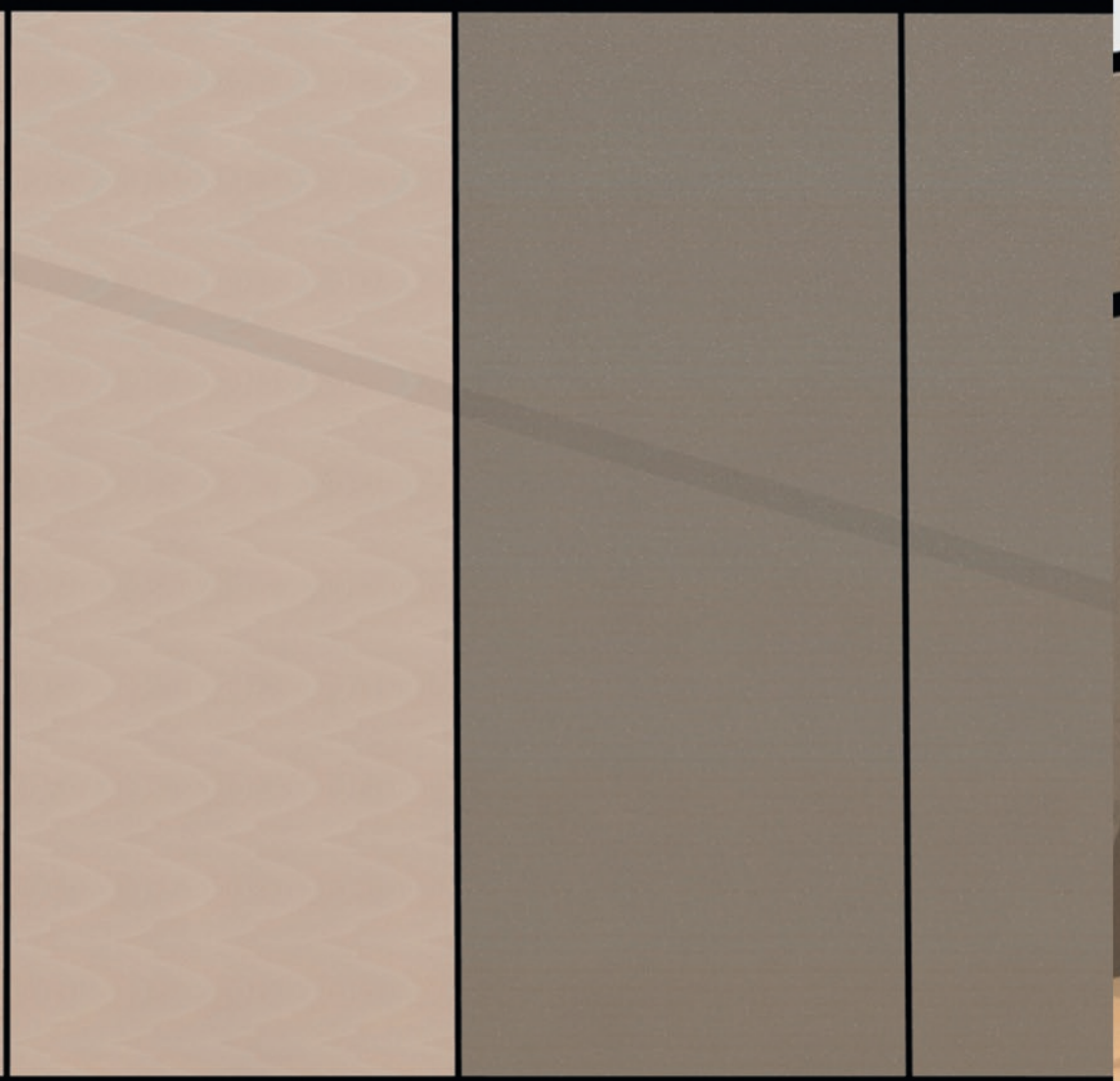


Figure 28. Preliminary 3D model

Figure 29. Early version 3D model

3.4 Structural Design

The material choice for the booth was determined early in the process by selecting a tongue and groove wall panelling from HVL´s own product line-up, but the supporting structure for the panelling was still undetermined.

The initial choice was a timber beam frame that´d be constructed behind the panelling, but the reusability of such a soft material was a concern. As the set would face multiple construction/de-construction cycles, the screw-mounting would wear off the timber rather quickly. Replacing the timber frame between events would not be a viable choice as the cost of the unit would ramp up significantly due to material and construction costs. As the set is required to be mobile, timber isn´t a good choice as timber elements tend to be heavy.

Second option for the frame structure was 40-50mm diameter steel profile frame that´d loop around the whole booth. Steel profile is a superior material to wood in terms of durability and weight thus it was the more optimal choice for this project. Initial construction costs may be higher, but the durability of the material ensures a trouble-free setup in different events.

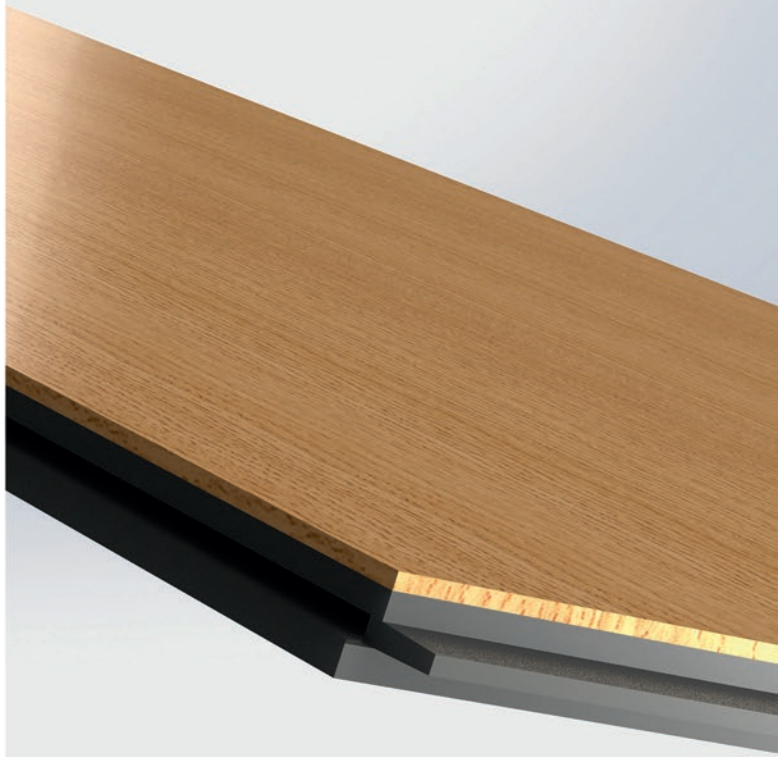


Figure 30. HVL wall panel

Figure 31. Exhibition set wall

3.5 CAD Model & Technical Drawings

The final CAD model was easy to produce as most of the workflow had already been done in Solidworks. As majority of the model had already been produced during the iteration phase of the project, the final CAD model didn´t require many changes in order to be presentable.

The biggest changes in the CAD model were done in the presentation version of the model. In order to portray the booth realistically in renderings, a mock-up of an exhibition hall and neighbouring booths had to be done. This task was not particularly difficult nor challenging, but rather time consuming as the elements that had to be added to the scene were rather major. The presentation model was done to reflect the real-life position of the booth at Puu 2021 trade show.

The non-presented CAD model was used to create some of the technical and engineering drawings that showcase the framework and construction of the booth. The physical product will be created from these drawings. After consulting the project opponent, the decision was made to include cross section images and floor plans as part of the engineering package for the project. These additional drawings were created with AutoCAD.

As an addition to the structural drawings, more detailed images of the assemblies and mounting solutions were taken in order to clarify the functionality when going into production.

Figure 32. Final CAD model

Figure 33. Final CAD model

Figure 34. Final CAD model

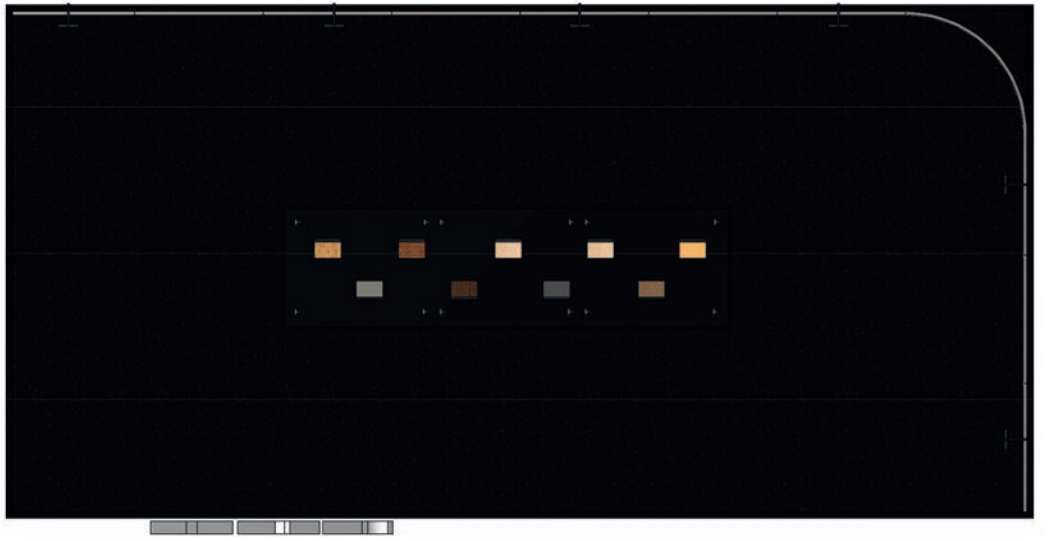
Figure 35. Final CAD model

Figure 36. Final CAD model

Figure 37. Final CAD model

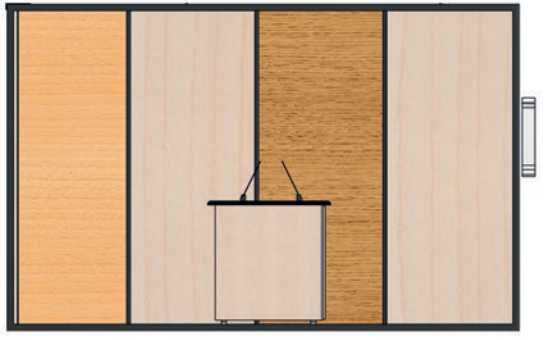
Figure 38. Final CAD model

Figure 39. Final CAD model



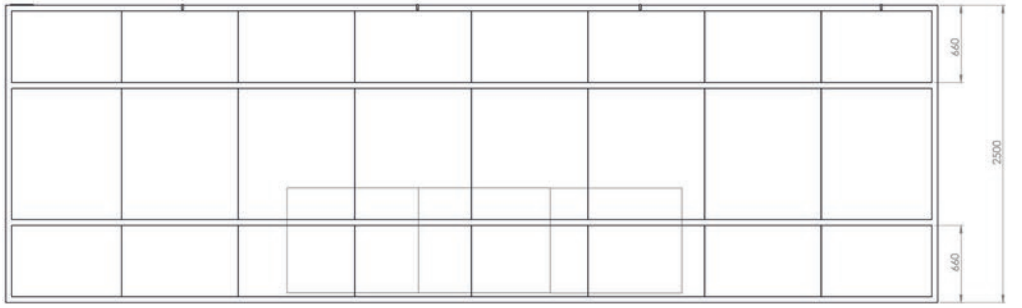
1:20

LEIKKAUS A - A



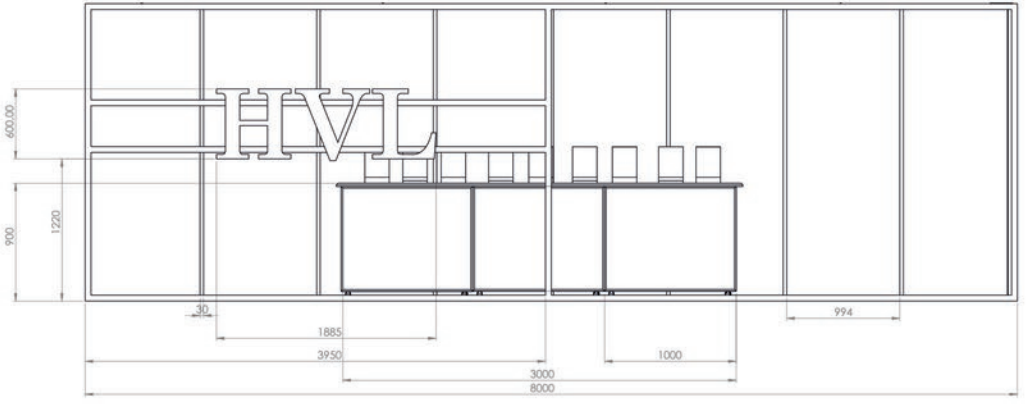
LEIKKAUS B - B

Figure 40. Cross section images



LEIKKAUS C - C

LEIKKAUS D - D



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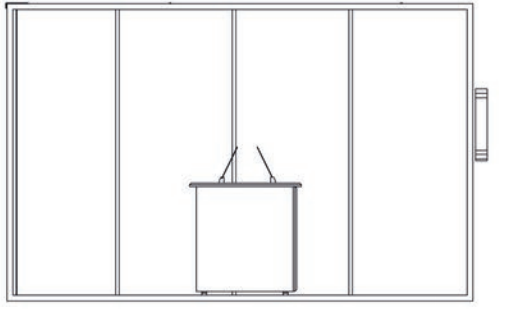
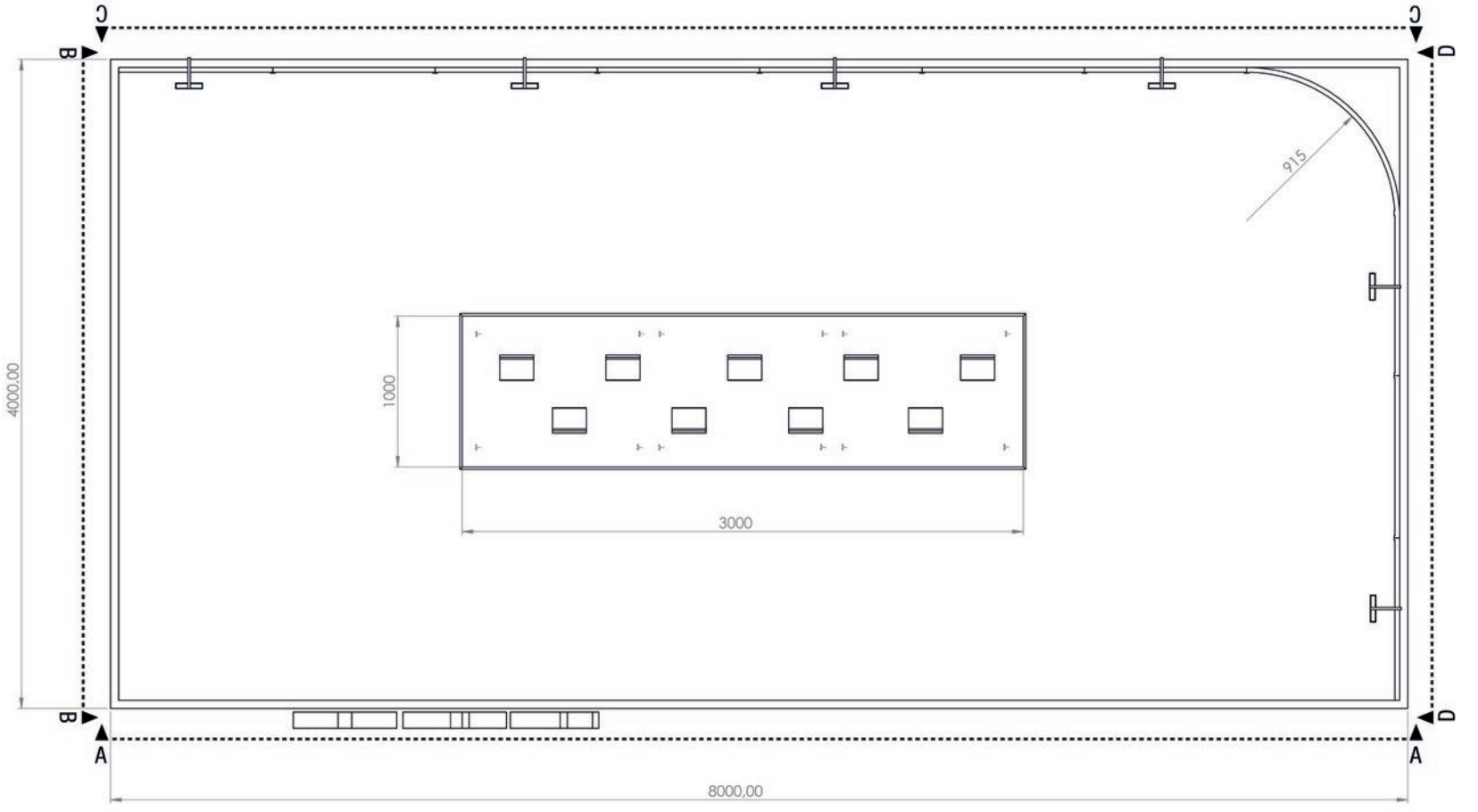


LEIKKAUS B - B

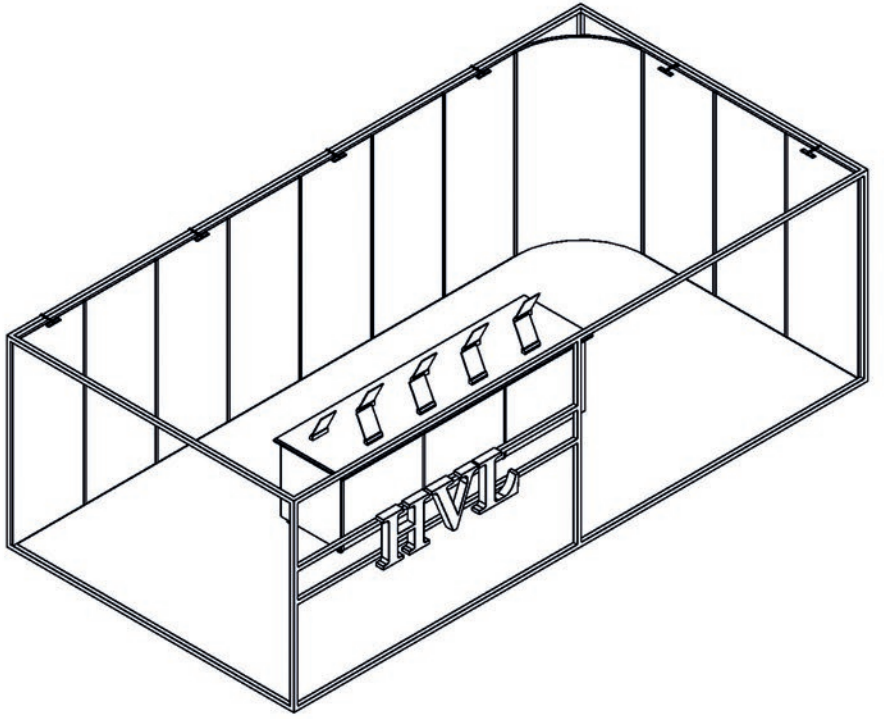
1:20

Figure 41. Cross section images

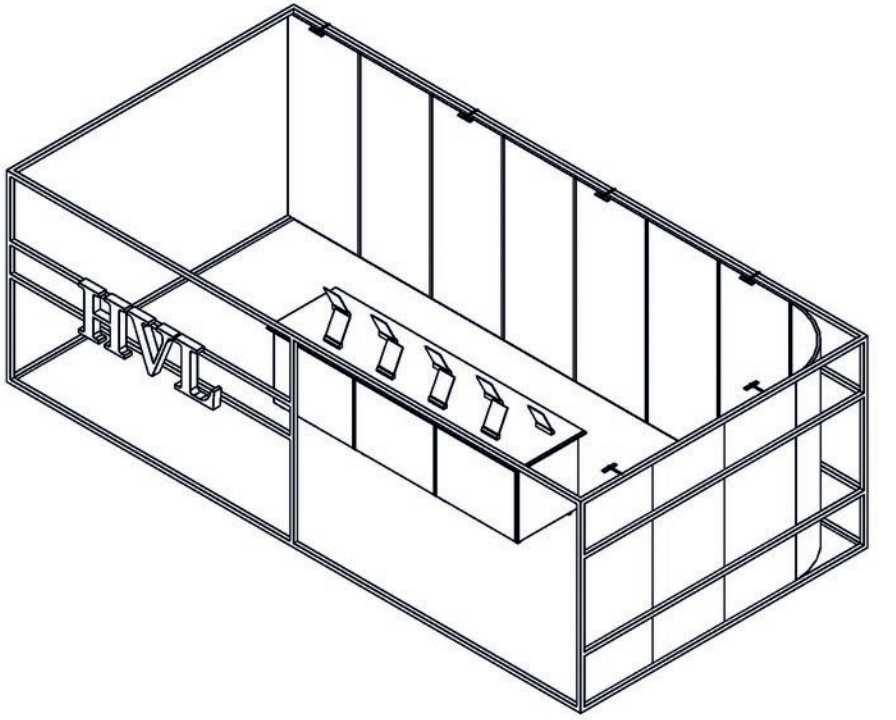


1:20

Figure 42. Floorplan



AKSONOMETRIA A



AKSONOMETRIA B

Figure 43. Axonometric projections

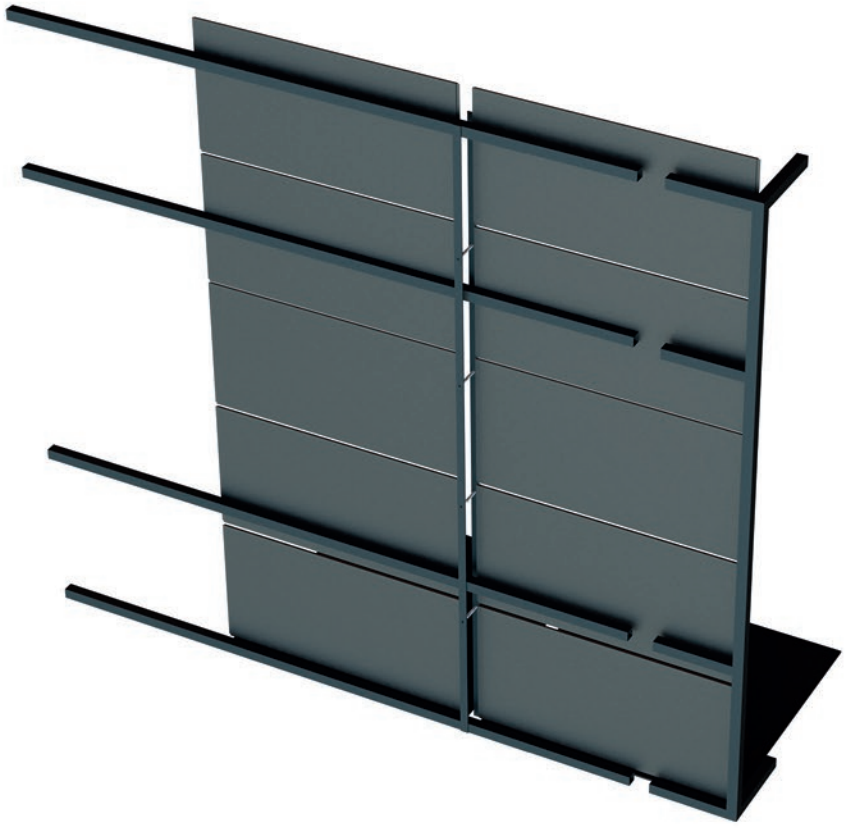


Figure 44. Exploded assembly view

Figure 45. Wall panel mounting exploded view

Figure 46. Disassembly image

Figure 47. Typewriter (Klauer 2014).

3.6 Presentation Materials

Production of the presentation materials was scheduled to be the last leg of the project. Most of the time budgeted was spent with creating convincing 3D renders in Solidworks. These rendered images were then colour-corrected in Adobe Lightroom and post-processed in Adobe Photoshop. Human figures and other elements were added into the booth renderings to create a life-like look, and to give the viewer a reference for size and space.

The technical drawings were refined and cleaned up in Photoshop in order to be incorporated into the final presentation materials and publication. The copy of the publication was proof-read and refined, and it was pasted onto the layout created in Adobe InDesign. Once the layout of the text was finalized, appropriate imagery was pasted into the materials. Once the final materials had been drafted, the publication was proof-read and corrected before final export.

4 Evaluation

4.1 Final Product

The final deliverables for this project were a visual and structural concept of HVL´s modular exhibition booth. The concept was delivered in three-dimensional form via renderings and technical imagery. The definitive look and structure of the booth could not be achieved during this project´s time window, as the final construction of the booth and possible co-operations were unclear at that time.

Figure 48. Final CAD model

4.2 Self Evaluation

The topic of the project was a slight cross-over between industrial design and interior architecture, which presented some challenges at the beginning of the project. Third party help from HVL staff and fellow interior architecture students gave a clearer image on how the design should be approached. It was interesting to see how industrial design knowledge blended into designing something that was borderline interior architecture. Designing and constructing spaces requires greater attention to additional details that come with the multiple different elements that are incorporated into the space when compared to Industrial Design where usually only one element is designed at a time.

The project required some engineering work as well in order to plan out the physical construction of the set. The engineering required was relatively basic, but serious thought had to be put into things such as material integrity and weight.

HVL's interest on this project and their products made approaching this project a lot easier, as it was easy to gain information on materials and their properties from experts of the field. Material choices were relatively easy, as I could have a hands-on experience on the materials that were picked into the final set after receiving an extensive sample set from HVL.

Bringing all these elements together in order to create a visually appealing set was a challenge, but considering the limited experience with actual interior architecture, the final concept was successful.

4.3 Peer Review

(Myöhänen 2021.) ”The overall concept is great as it can be modified to fit different venues and events without the need of applying extra materials or parts to the structure. Modularity is a big plus as it’s currently a very popular trend within interior architecture. The modularity of this booth has been designed well, and it works as intended. Initially Kaj Erik had multiple ideas and early concepts to choose from. These concepts evolved well throughout the project.

Kaj Erik has taken the project with a firm grip even though he ventured in to a different niche of design. His process has been logical and his ideas have evolved well during the project. Seemingly digital tools suit him better, thus he has been able to iterate his ideas faster in 3D, which seems to be more efficient for him. He has been receptive with feedback and help, thus he has been able to do a project that is outside his specialization and comfort zone.”

Figure 49. Final CAD model

Figure 50. Disassembly image

5 Conclusion

5.1 Further Development

After completing the design work for the booth concept, the concept will be further refined by HVL in order to be developed into a constructed setup. The booth setup will be premiered later in 2021 at Puu 2021 exhibition at Paviljonki, Jyväskylä Finland. After the event, the set will remain in operation with HVL until 2024 when it will be replaced by a new design. Possible alternative looks will also be designed for different events and venues in order to keep the setup visually relevant across its long lifespan.

A proposition was also made to research possible new backing materials for the MDF wall panels in order to provide a more environmentally friendly product, and more sustainable exhibition booth.

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