Körber Supply Chain

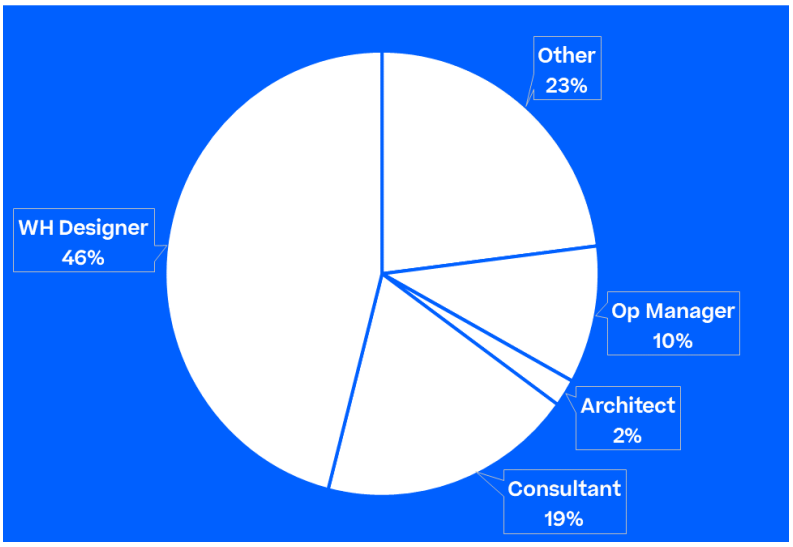
Warehouse 2020 survey analysis

The Warehouse 2020 survey conducted by Körber was completed by 59 warehousing professionals. It was designed to gain a better understanding of the current approaches towards warehouse design and to learn what warehouse challenges will need to be taken into consideration in the future. Respondents were mainly based in Europe, primarily the U.K., but a significant number of responses and valuable opinions were shared from the rest of the world.

Contents

Results

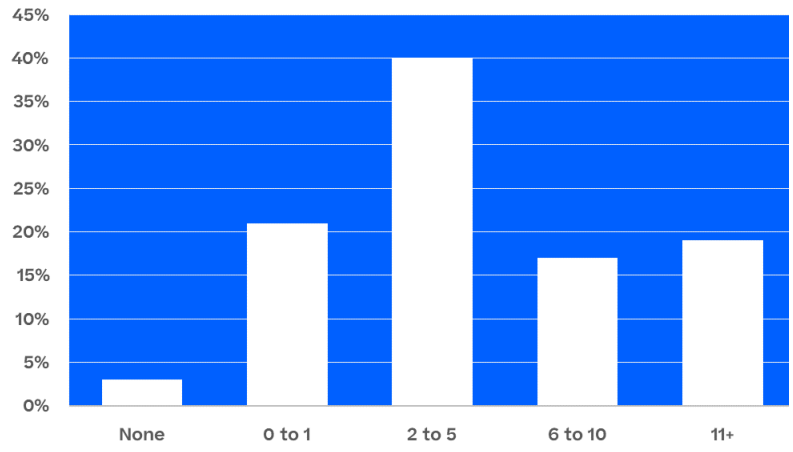
What best describes your role?



The majority of respondents, more than 46%, were Warehouse Solutions Designers, followed by Consultants (19.2%), Operations Managers (9.6%) and Architects (1.9%). 'Other' category included Project Managers, Process Specialists, etc.

Depending on the size of the company, scale of the operations, or the characteristics of the industry, warehousing professionals design from 0 to 11+ new warehouses each year. A large proportion (40%) design 2-5 warehouses, followed by 0-1 (21%), 11+ (19%), and 6-10 (17%) each year.

How many warehouses do you design each year?

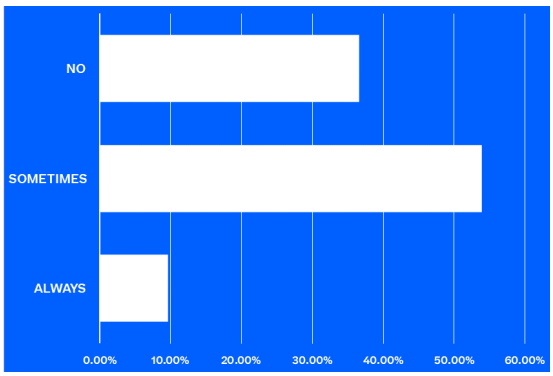


9.62% of respondents always use a common template for the design and 53.85% use a template sometimes. Templates may speed up the design process but risk compromising the opportunity to identify the optimal solution. It is therefore good to see that 36.54% of designers always start from a clean sheet of paper.

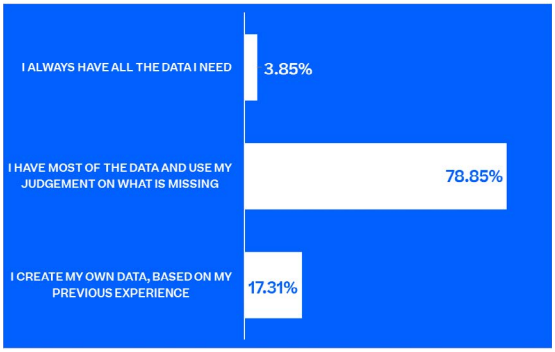
Only 3.85% of respondents have all the data they need to design a warehouse, the majority 78.85% use their own judgement to fill in the missing information. Some designers rely purely on their own experience, with 17.31% claiming to create all the data they need from experience. Some missing information such as time and travel distances can be overcome when the designer is using a spatially aware modelling tool.

80.77% of the respondents use Spreadsheets for warehouse design either partly or entirely. Spreadsheets are useful tools for preparing data to be imported into a computer modelling application but cannot be used for a detailed design project on their own. Nearly half of the respondents currently use CAD software, followed by 44% of all users using computer modelling software. A few of the respondents have stated that they do not use any software for the design, which may reflect the nature of their jobs.

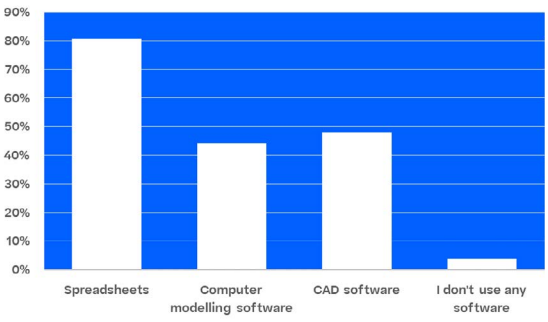
Do you have a common template that is the basis for all your designs?



When you design a warehouse, do you usually have access to all the data you need?



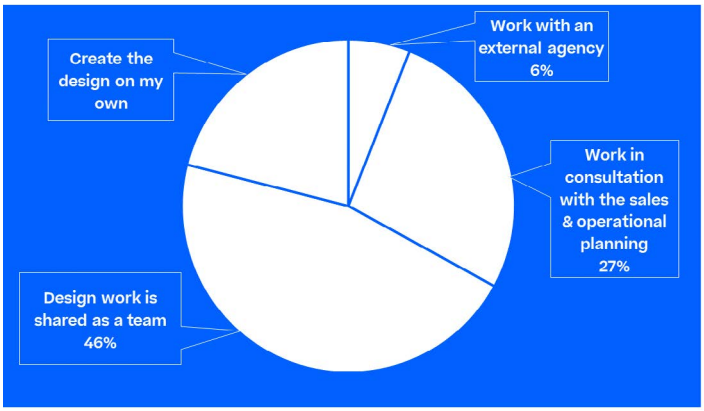
Which of the following applications do you use when designing a warehouse?



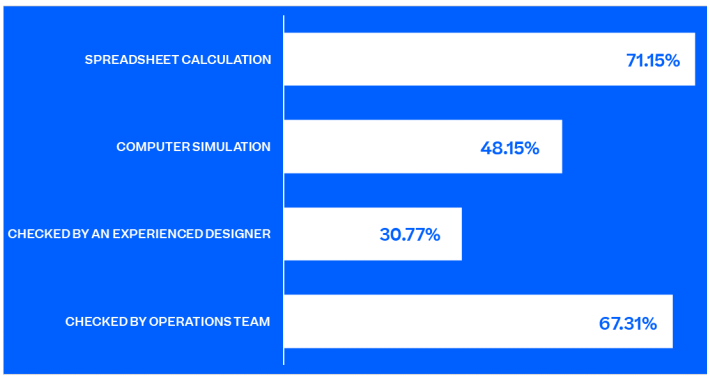
According to our survey, only a quarter of respondents create the design on their own, whereas the majority work as a team with external consultancy, Sales & Operational Planning, or other team members. Some of them have indicated that whether they work on their own or collaboratively depends on the type of the project.

Testing the warehouse design is crucial in ensuring that the final design can support the Supply Chain at the operational level. Spreadsheet is the most widely used tool for this purpose (71.15%), whereas less than half of the respondents test their designs by simulation. Since simulation is the only thorough way of testing the design, the results may suggest that larger than needed design margins are used to compensate for the use of data. aggregation and averaging. Two-thirds of the professionals have answered that they have the designs checked by an operations team, and 30% of all the respondents will consult an experienced designer.

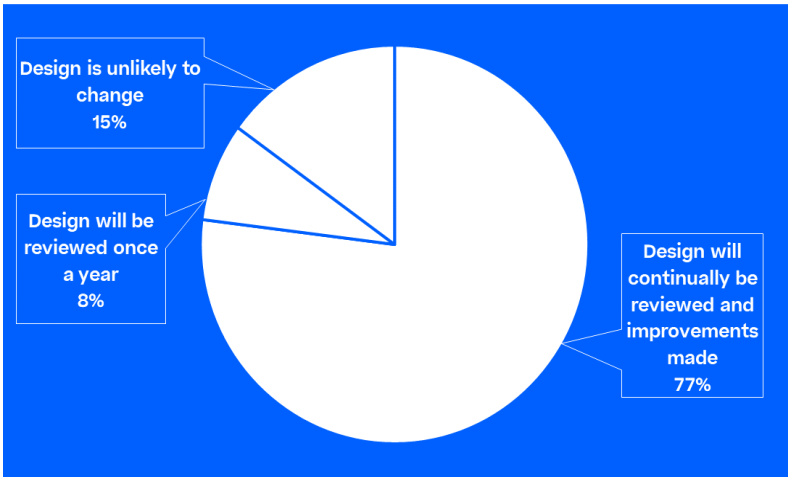
Do you create the design working as part of a team?



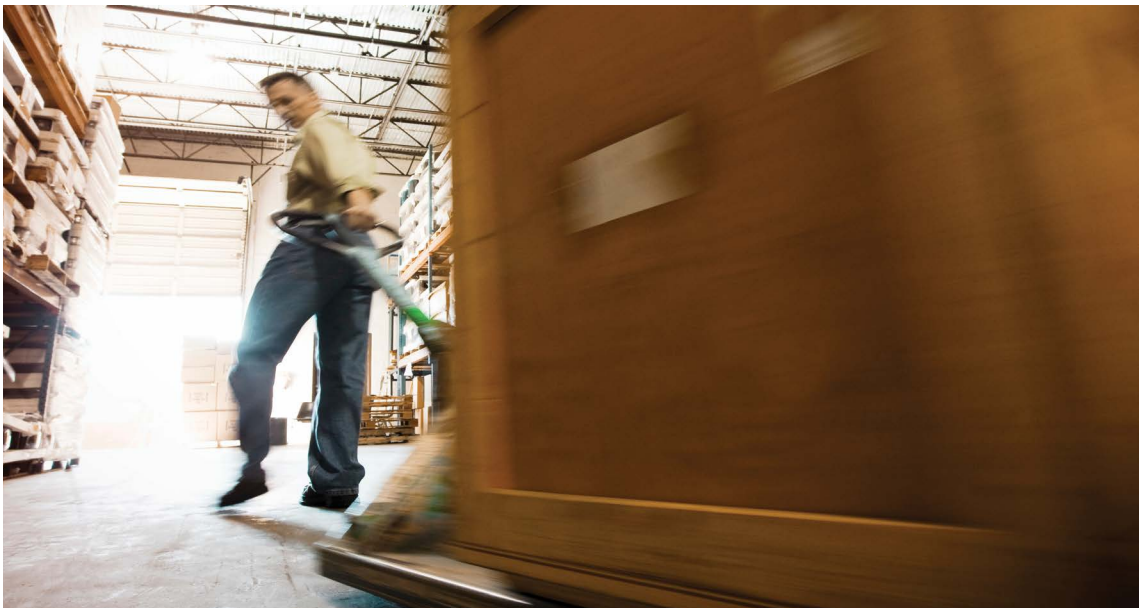
How do you test your design, select all that apply?



How frequently will you review the design after it has been implemented?

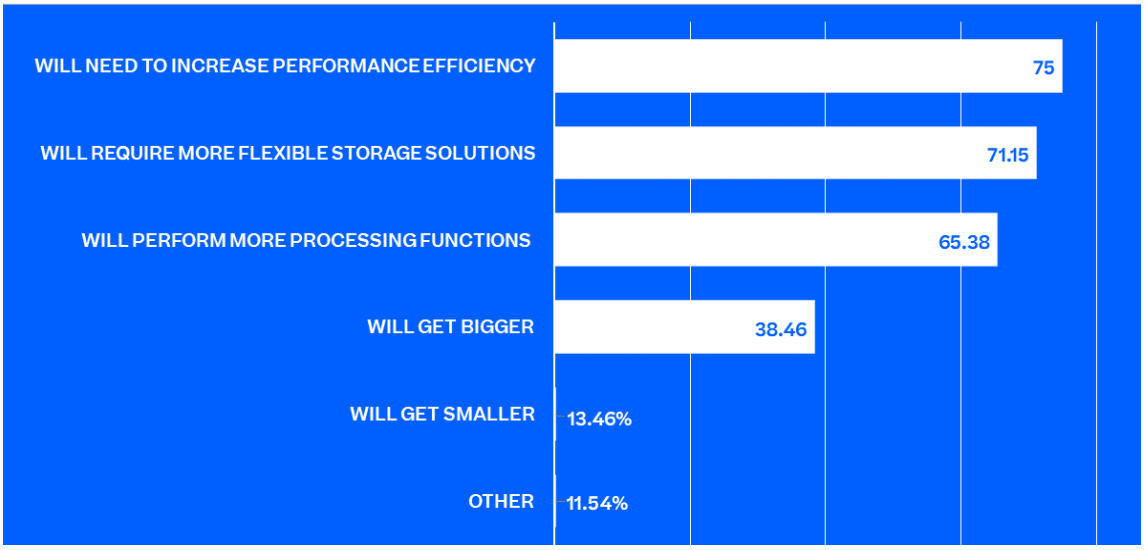


To our question regarding the expected review frequency of the warehouse design, 77% of the respondents answered that the design will be reviewed continually, and improvements made. A few of the respondents will review the design once a year, whereas 15% of all users do not plan to update the design upon implementation. This question may also reflect that a lack of thoroughness in testing results in the designer revisiting the designer once it is operational. In our experience, even the best design should be revisited at least annually, to ensure the warehouse is capable of meeting projected strategic requirements.



Future of warehousing

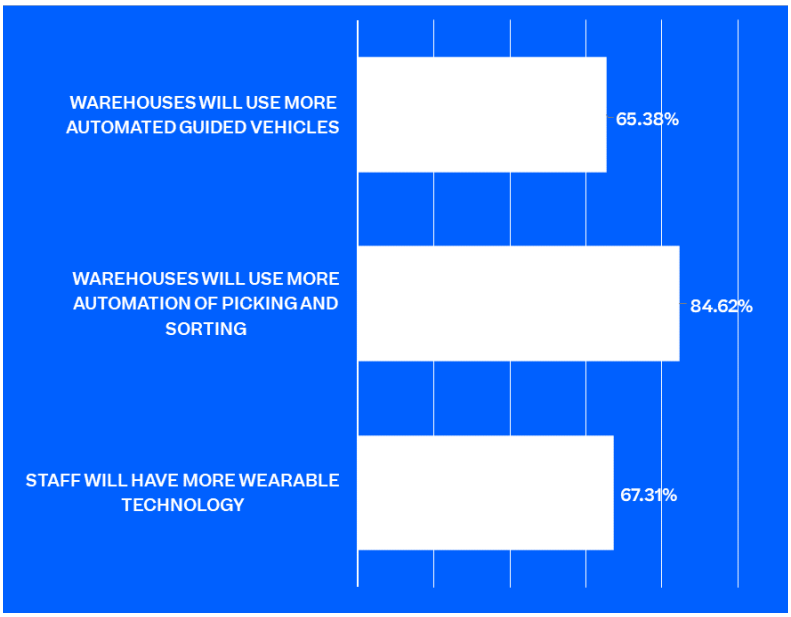
Which of the following warehouse trends do you agree with?



With constantly evolving demands, supply chains and their warehouses are put under greater pressure to be more agile and resilient. In this section, we have collected some interesting opinions from the professionals on how the warehouses will or should change to absorb market needs.

A majority of warehousing professionals agree, to a certain extent, that warehouses 'will need to increase performance efficiency', 'will require more flexible storage solutions' and 'will perform more processing functions'. Some of them believe that warehouses 'will get smaller' (13.6%) or 'will get bigger' (38.56%). Moreover, some commented that 'the differentiator will be added value service (nonstandard warehouse operations)', which highlights the increasing role warehouse design can play to make companies stand out in the market.

How will technology change within the warehouse?



Innovations and technological advancements in warehouses are indisputably key themes regarding the future of warehouses. While most respondents (85%) agree that 'automation of picking and sorting' will increase in the coming years, some are skeptical about the likelihood of the increased usage of 'automated guided vehicles' or 'wearable technologies'. Some interesting comments included: 'In the next 3 years, traditional warehouses shall convert to semi-automatic (50% automation) and semi-automatic to at least 80% automation of storage and handling' and 'autonomous moving robots will be working in parallel with humans'.

What challenges will warehouses face in the future?

Professionals have further identified some of the challenges warehouses may face in the future:

- Warehouses are constantly under pressure to achieve more with less resource
- Keeping costs down
- Providing the shortest possible (market-acceptable) lead times
- Achieving better service levels Minimizing their environmental footprints

These objectives are challenged by:

- The slow ROI (Return on Investment) of technology improvements
- Constraints in physical space and personnel
- Visibility in demand as a consequence of rapidly evolving customer expectations, increased product ranges or product returns, etc.
- Staying up-to-date with the latest technology, ensuring seamless integration of the technologies and stretching the capabilities of automation will be the key in brining success
- Network security

Conclusion

What does this survey tell us?
Warehouse design requires a combination of tools for layout drawing, data manipulation, and simulation. It also necessitates smooth collaboration for the team members to exchange ideas and contribute to the design. We have seen that the warehouse design process tends to be a team activity, involving logistics professionals, designers and consultants from outside the organizations. Lastly, data is inevitably missing in the process, which can lead to over simplification of the model.

For more information:

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