

Whitepaper

# User Interface

New Interface impresses with  
its intuitive Design.



German software manufacturer CIM has stirred up the WMS market with a new user interface. **PROLAG World**'s revamped interface combines visual appeal with well thought-out functions and a flexible list design for an optimal user experience. The new UX design also provides digital assistants as well as intuitive operation across the system.

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# Introduction

User interface design has become a key aspect of the IT user experience in recent years. One of the reasons for this is that software systems are no longer a rarity but exist in large numbers within a highly competitive market. There are generally plenty of alternatives offering similar functions, meaning that users who become frustrated by a system with poor software ergonomics and an outdated design are likely to switch to a different application.

In terms of the WMS market, the user interface has not always been considered as pivotal to the success of the software. This is due partly to the fact that conventional warehouse management functionality does not exactly lend itself to innovative design and artistic license.

Warehouse management software is undoubtedly one of the most complex products on the software market. And the complexity increases the bigger the warehouse, the higher the number of storage transactions per day, the greater the level of automation and the more diverse the article master.

The average logistics software solution has over three million different parameters to consider and is more complex structurally than an aircraft. To adequately this degree of complexity in a software solution, implement commands, instructions and logic and stably integrate them into a warehouse control system is the first challenge. And incorporating all of the required functions into a user interface that is functional as well as aesthetically pleasing is nothing short of a mammoth task.



# A cutting-edge user experience

CIM decided to embark on this difficult challenge. The **PROLAG World** warehouse management system was taken apart by the logistics software experts and painstakingly put together again piece by piece within a new user interface.

The result is a browser-based interface on the cutting edge of intuitive UI design and user experience. The responsive design enables problem-free display on various different end devices, from terminals to handhelds, and can be run on any conventional operating system.

Not only the new visual design is a major achievement by the development team at CIM. All customers who have signed an upgrade contract can work with the functions which are already available in the new interface. This means that existing customers are already up and running with the new UI.





## Easy to use through intuitive design

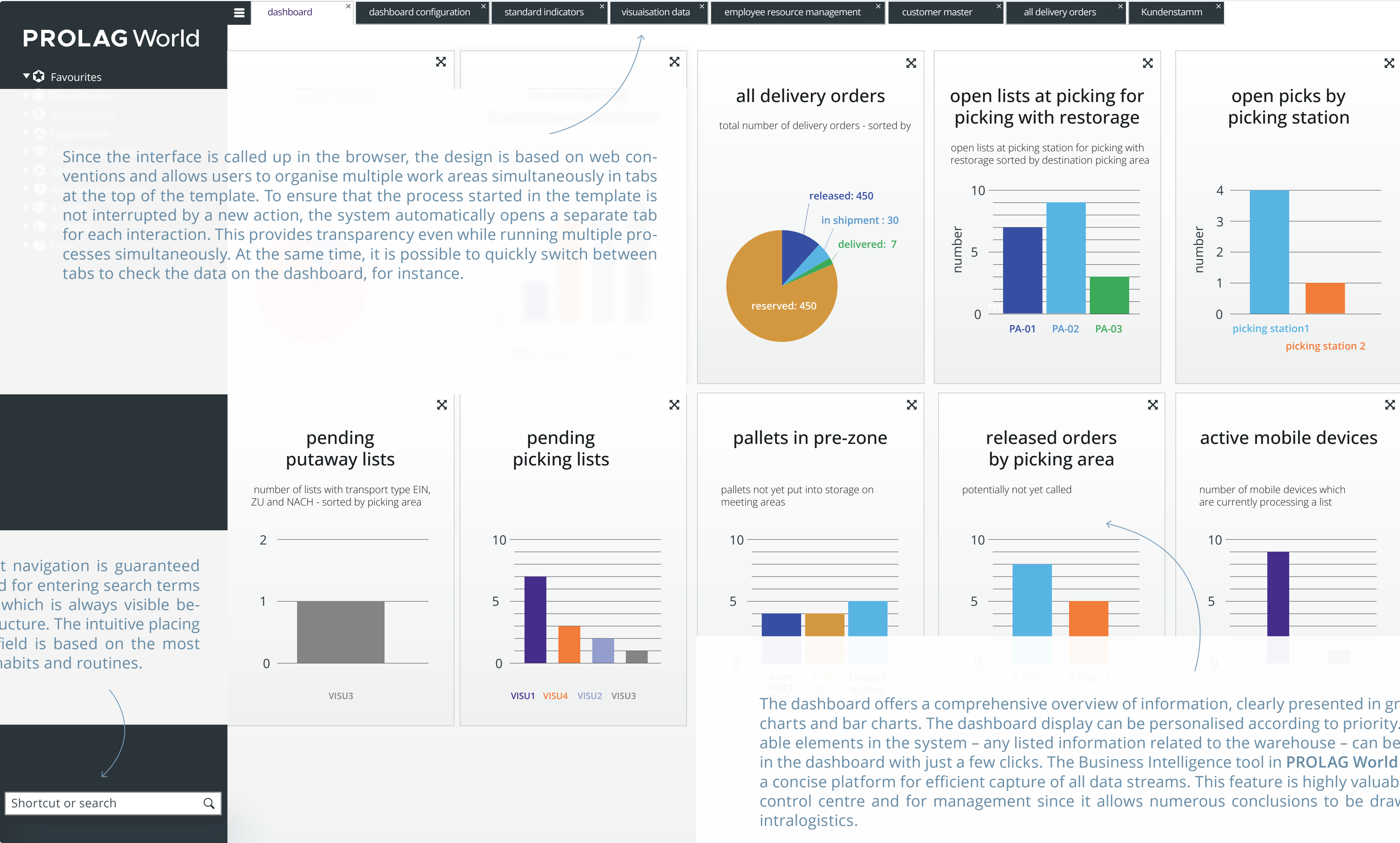
Even a first glance at the interface reveals the key aspects of the UI: simplicity and intuition. The initial screen in **PROLAG World** optimally caters to user needs and provides instant usability.

User interface orientation is a factor that cannot be underestimated, especially if the program is complex and provisions large amounts of data in lists, for example. In warehouse management systems such as **PROLAG World** and in CIM's other logistics solutions, the capability to formulate and pass on complex instructions is an added factor. The tree structure on the initial screen allows users to find their bearings in their assigned area of activity within the warehouse. It shows all areas of the system at a glance and also offers the option of customising a favourites list to enable users to work faster and more efficiently.

All the 'main events' take place in the central section of the interface, which is kept clear from the start. The **PROLAG World** logo on the initial screen guides the user's gaze to the section where lists, pictograms, data and templates are displayed.



The **PROLAG World** initial screen – simple and intuitive.



The dashboard offers a comprehensive overview of information, clearly presented in graphs, pie charts and bar charts. The dashboard display can be personalised according to priority. All filterable elements in the system – any listed information related to the warehouse – can be mapped in the dashboard with just a few clicks. The Business Intelligence tool in **PROLAG World** provides a concise platform for efficient capture of all data streams. This feature is highly valuable for the control centre and for management since it allows numerous conclusions to be drawn about intralogistics.

The dashboard can be viewed without interrupting operations such as put-away.

## UX design for all users

The user interface was designed with the specific goal of enhancing the user experience and making **PROLAG World** easier to work with. The special challenge in this regard was not only to adequately represent the complexity of the intralogistics processes. The varied requirements of the different application areas and the diversity of the software itself were additional hurdles. **PROLAG World** is used in multiple industry sectors all with different needs when it comes to storage, production, shipping and transport. There are standard workflows, business processes and transactions configured in the software based on the area of application.

This enables a wide range of applications and rapid commissioning for the customer, the prerequisite being that the software meets the usage requirements of the respective industry sector and provides the necessary capabilities. The challenge is similar for data preparation in the dashboard, for example. The use of master data and warehouse data is industry-specific and can also differ from one company to the next.

Company-specific structures are another relevant factor. Unlike apps oriented towards the general public, **PROLAG World** is designed for users with diverse areas of responsibility reflected in the 'role' of the respective logistics specialist. Not every employee needs all the functions provided in a template. A different user interface is required in the control centre than for goods receipt, for example. How can all these factors be taken into account while ensuring that the interface remains intuitive?

**K** keep **I** t **S** imple **S** tupid

This guiding principle of UI design is a real challenge when applied to software with a myriad of configurable parameters.

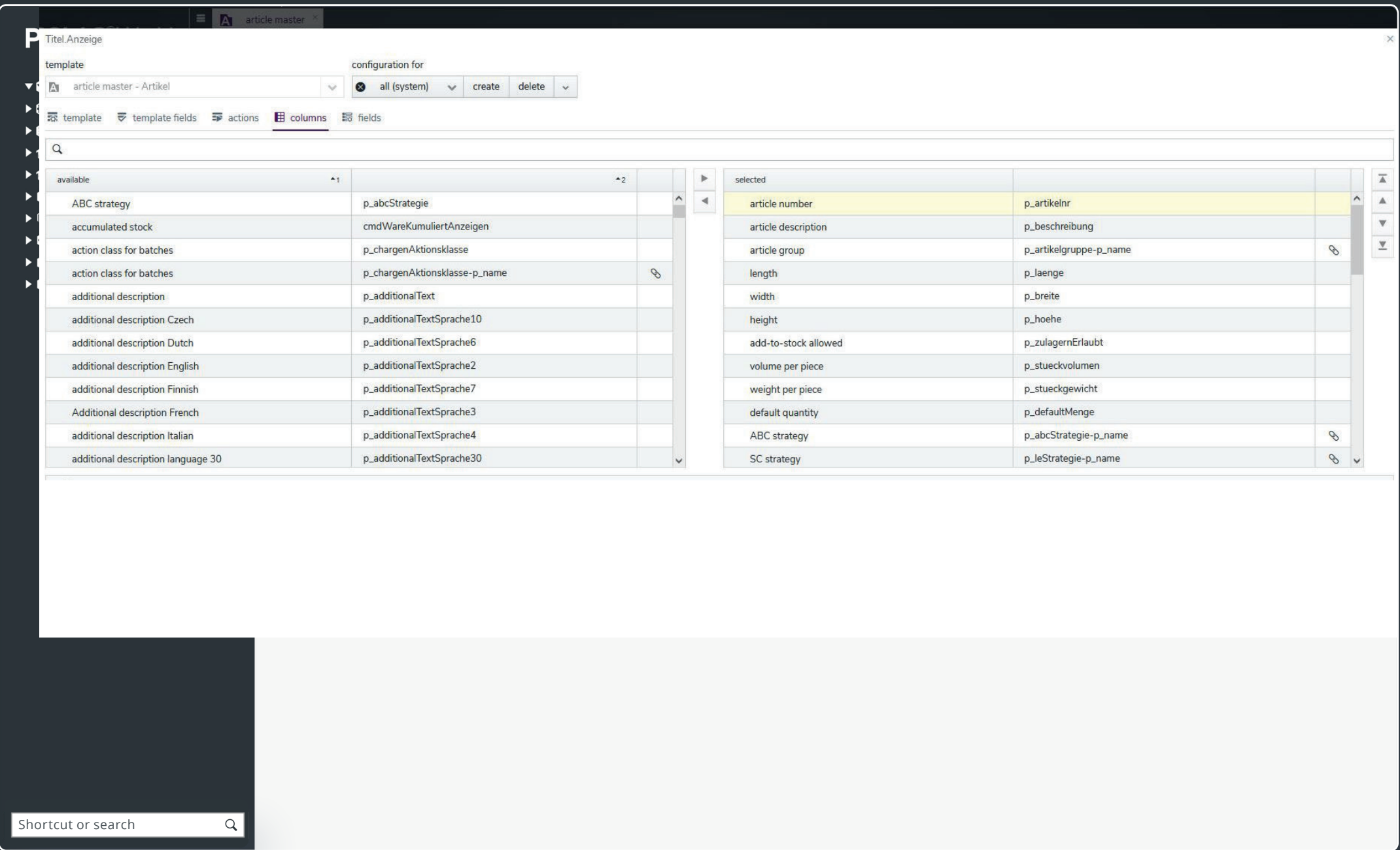


# User-specific flexibility as a critical element of template design

Human intuition is the product of habits formed over many years. The challenge in terms of warehouse management software design is that multiple employees with different tasks – and different habits – all work in the same environment. In other words, there are varying expectations with regard to intuitive use of the software.

In order to rise to this challenge, the team at CIM opted for a fully configurable UI with integrated role management. This was felt to be the only approach that could do justice to the complexity of the application. What’s more, it meant that the simplicity required of any modern user interface could be provided in individual cases without having to forego important universal features in the system.

## Template configurator with role configurations



Lists and templates can be displayed globally or on a user-specific or role-specific basis.



# Table design – flexible, concise and intuitive

The customisable user interface makes it possible to design what is probably the most central and also the most awkward element of any WMS in a clear and intuitive manner.

If you call up one of **PROLAG World’s** numerous lists, for example, you can optimise the display according to your needs. The example of the article master shows how useful this approach can be. When displayed in full, a list consists of multiple elements showing all data recorded for the articles in storage. Not all data is equally relevant for each user, which is why individual elements can be hidden. List elements can be moved using Drag and Drop, filter functions are readily available and the sequence can be changed based on individual requirements.

The transparency of the numerous list contents is facilitated by the appealing list design. It provides a visual depth which is pleasing to the eye and reveals the relevant information at a glance. Colour elements for personalising specific list elements can be set as the default for a specific user. Thanks to the intelligent list design, the system offers a multitude of possible uses along with a high degree of flexibility.

article master

Q

barcode evaluation inactive

article number	article descripti...	article group	length	width	height	add-to-stock al...	volume per piece	weight per piece	default quantity	ABC strategy	SC strategy	user strategy		
10009	honey in round ...	CIM-promotion...	50.0	45.0	50.0	–	0.113	105.0	10.0	A strategy				
10010	custom made	CIM-promotion...	50.0	45.0	50.0	–	0.113	105.0	10.0	A strategy				
10011	article for prod...	CIM-promotion...	50.0	45.0	50.0	–	0.113	105.0	10.0	A strategy				
10012	honey in round ...	CIM-promotion...	50.0	45.0	70.0	–	0.158	145.0	10.0	A strategy				
10013	honey in round ...	CIM-promotion...	50.0	50.0	45.0	–	0.11	95.0	10.0	A strategy				
10014	honey in round ...	CIM-promotion...	50.0	40.0	25.0	–	0.05	45.0	10.0	A strategy				
20001	cornflakes	Food	24.1	16.1	8.2	✓	3.182	0.75	50.0	A strategy				
20002	cornflakes - RPL	Food	24.1	16.1	8.2	✓	3.182	0.75	50.0	A strategy				
20003	honey - expiry ...	Food	50.0	45.0	50.0	✓	3.182	0.75	50.0	A strategy				
20004	cornflakes - wit...	Food	24.1	16.1	8.2	✓	3.182	0.75	50.0	A strategy				
20005	large cup - Cha...		130.0	100.0	90.0	–	1.17	331.0	50.0	A strategy				
20006	washing machi...	Electric	60.5	60.4	95.8	–	350.072	14.3	1.0	A strategy				
20007	MP3 player - s...	Electric	10.1	8.1	2.1	–	2.296	1.2	10.0	A strategy				
20008	TV: serial numb...	Electric	34.2	50.2	40.1	✓	68.845	23.2	5.0	A strategy				
20009	cornflakes - ne...	Food	24.1	16.1	8.2	✓	3.182	0.75	50.0	A strategy				
20010	Bobby													
20010-T1	Bobby													
20010-T2	Bobby													
20010-T3	Bobby													
20011	apple	VISU-L123	386	ungeplant	reserved	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	1 Sep 2020, 00...	STAND
20011-T1	water	VISU-L124		ungeplant	created	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	1 Sep 2020, 00...	STAND
20011-T2	apple	VISU-L125	387	ungeplant	released	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	18	99	1 Sep 2020, 00...	STAND
20012	toolbc	VISU-L126	388	ungeplant	released	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	18	99	1 Sep 2020, 00...	STAND
20013	batter	VISU-L127	389	ungeplant	released	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	3	99	1 Sep 2020, 00...	STAND
20014	jigsaw	VISU-L42	390	ungeplant	partially reserv...	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	1 Sep 2020, 00...	STAND
20015	cup fr	VISU-L43-WA	385	ungeplant	released	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	3	99	1 Sep 2020, 08...	PACK
		VISU-L52	384	ungeplant	booked	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	1 Sep 2020, 00...	CHECK
		do-e-com01	370	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
		do-e-com02	371	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
		do-e-com03	372	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
		do-e-com04	373	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
		do-e-com05	374	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
		do-one-scan01		ungeplant	created	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	PACK
		do-one-scan02		ungeplant	created	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	PACK

edit retrieval strategy

article description

✓ article group

✓ length

✓ width

✓ height

✓ add-to-stock allowed

✓ volume per piece

✓ weight per piece

✓ default quantity

✓ ABC strategy

✓ SC strategy

✓ user strategy

✓ storage group

✓ load unit type

✓ expiry date mandatory

✓ default expiry date

✓ expiry date - remaining time

✓ expiry date check

✓ quality assurance

QA reason

batch obligation

✓ inspection Int monthly

order control centre

change priority

shipment generation

reserve DO

release order

allow partial delivery of order and items

cancel DO

edit

edit retrieval strategy

edit retrieval strategy

order management

RF

delivery order	shipment	order type	status	picking started	customer num...	name 1	postcode	city	picks	priority	delivery date	retr		
20010-T3														
20011	<input type="checkbox"/>	VISU-L123	386	ungeplant	reserved	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	1 Sep 2020, 00...	STAND
20011-T1	<input type="checkbox"/>	VISU-L124		ungeplant	created	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	1 Sep 2020, 00...	STAND
20011-T2	<input type="checkbox"/>	VISU-L125	387	ungeplant	released	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	18	99	1 Sep 2020, 00...	STAND
20012	<input type="checkbox"/>	VISU-L126	388	ungeplant	released	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	18	99	1 Sep 2020, 00...	STAND
20013	<input type="checkbox"/>	VISU-L127	389	ungeplant	released	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	3	99	1 Sep 2020, 00...	STAND
20014	<input type="checkbox"/>	VISU-L42	390	ungeplant	partially reserv...	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	1 Sep 2020, 00...	STAND
20015	<input type="checkbox"/>	VISU-L43-WA	385	ungeplant	released	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	3	99	1 Sep 2020, 08...	PACK
	<input type="checkbox"/>	VISU-L52	384	ungeplant	booked	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	1 Sep 2020, 00...	CHECK
	<input type="checkbox"/>	do-e-com01	370	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
	<input type="checkbox"/>	do-e-com02	371	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
	<input type="checkbox"/>	do-e-com03	372	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
	<input type="checkbox"/>	do-e-com04	373	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
	<input type="checkbox"/>	do-e-com05	374	ungeplant	reserved	✓	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	QUICK
	<input type="checkbox"/>	do-one-scan01		ungeplant	created	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	PACK
	<input type="checkbox"/>	do-one-scan02		ungeplant	created	–	1	CIM GmbH Log...	82256	Fürstfeldbruck	1	99	28 Aug 2020, ...	PACK

A glance at the master data in the warehouse used for CIM training courses. The list elements for display can be selected on the right. Not only are the tables in the system clear and concise, they can also be exported as Excel or Print files.

The options for colour highlighting in the control centre are extremely useful. This user has already set up a favourites list.



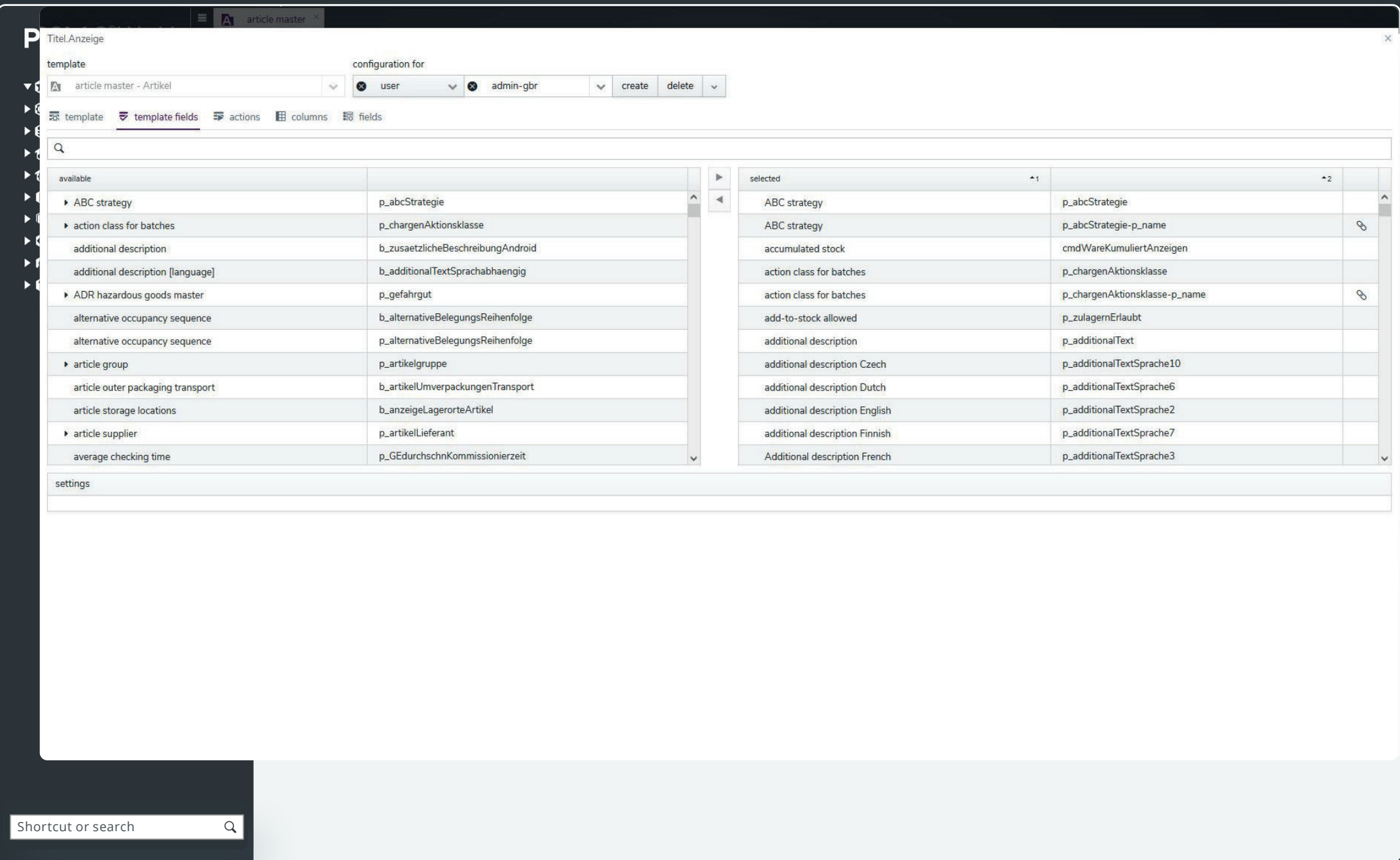
# The template configurator

To enable maximum personalisation and optimisation not just of tabular lists, CIM has integrated the original template configurator into the new UI and enhanced it. Users can configure selection fields, input fields and buttons themselves according to the layout of their warehouse or the respective user role. This prevents the interface from being cluttered by seldom used template elements which complicate work and reduce usability. The settings in the template configurator are not made during working hours but are generally made during the commissioning phase.

Once the interface details in the template configurator have been configured, together with the dashboard and list elements, the system is intuitive to use. Users will find their habits and experiences in software usage reflected in the **PROLAG World** user interface. New processes quickly feel familiar and make it noticeably easier to get started with the system. The flexible template design is one of the key features of the user interface since it helps to save time in the workplace and reduce training effort.

A special feature of **PROLAG World** is its ability to guide users through the individual process steps for actions at the I-point, such as putaway. Depending on the action, the system knows the required criteria and supports the user by marking mandatory fields or drawing attention to any incorrect entries. It also maps out the individual steps necessary to complete the action.

## A glance at the template configurator



The two columns show the available action fields on the left, and the fields that have already been added on the right. Role management allows the control centre to customise the templates according to an employee's function. Buttons can be added or deleted with a simple click.

# Digital assistance through intelligent software design

A special feature of **PROLAG World** is its ability to guide users through the individual process steps for actions at the I-point, such as putaway. Depending on the action, the system knows the required criteria and supports the user by marking mandatory fields or drawing attention to any incorrect entries. It also maps out the individual steps necessary to complete the action.

## Supporting process steps

article master

i-point (scheduled)

purchase order item

2 enter data

overview

direct putaway & location check

purchase order information

stock characteristics

quantity & weight

date and time

print

hazardous material

article master

20003

article description

honey - expiry date

owner

Cim

goods receipt area

1GR AREA

purchase order item

P-expiry date/0/1

purchase order item - purchase quantity

100.0 pce

purchase order item - remaining storage quantity

100.0 pce

☐ close purchase order item

expiry date

propose expiry date

putaway quantity

100.0 pce

multiple putaway

1 suggestion

transport trolley LU type

transport trolley ID

open transport trolleys

☐ close transport trolley

transport load unit

euro-pallet

load unit ID

open mixed load unit

LU weight

1.0 kg

net weight

37.5 kg

total weight

38.5 kg

storage group

HBS

ABC strategy

A strategy

SC strategy

SC low

user strategy

light weight

hazardous material strategy

back

location suggestion

enter stock on mixed LU

putaway

add to load unit

add to stock

At the top of the screen, the user can see the steps that need to be entered on the interface to make an addition to stock, complete with a colour-coded progress indicator. Reordering the famous ‘jar of honey’ in our CIM warehouse requires the entry of an expiry date. Once all the master data has been entered, the system proposes an expiry date.



# Conclusion: Optimal usability across the board

Our glance at the interface shows that **PROLAG World** guarantees optimal usability for three different user types: The end user – the logistics professional operating a mobile device or stacker crane – can use the system almost without any detailed knowledge of the myriad of possible parameter settings. At the same time, it provides the warehouse management team with as many functionalities as possible in a straightforward and easy-to-use manner. Thirdly, the system integrates maximum user experience for performing configuration prior to commissioning. Because the easier the system is to implement, the easier it is for users to seamlessly adapt the software to their needs. Consequently, service requirements and training effort are reduced to a minimum.

So standard WMS software can indeed be configured and personalised as the **PROLAG World** user interface shows. The intuitive design of the system reflects browsing habits and in the medium term reduces training effort and onboarding time. More than anything else, **PROLAG World** offers a pleasant user experience enabling logistics professionals to operate terminals, handhelds and the control centre easily and quickly. With features such as the template configurator and role management, **PROLAG World** caters to the individual requirements of multiple different work processes.

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