

A woman with dark hair and glasses is shown in profile, looking towards the right. She is wearing a light blue shirt. The background is a blurred image of a person working at a computer. Overlaid on the right side of the image are various digital icons and graphics, including a globe, a bar chart, a line graph, a pie chart, a network diagram, and a person icon, all in a blue and white color scheme.

Josep Isart
HP Indigo EMEA Business Manager

Czech Republic | April 10th, 2025

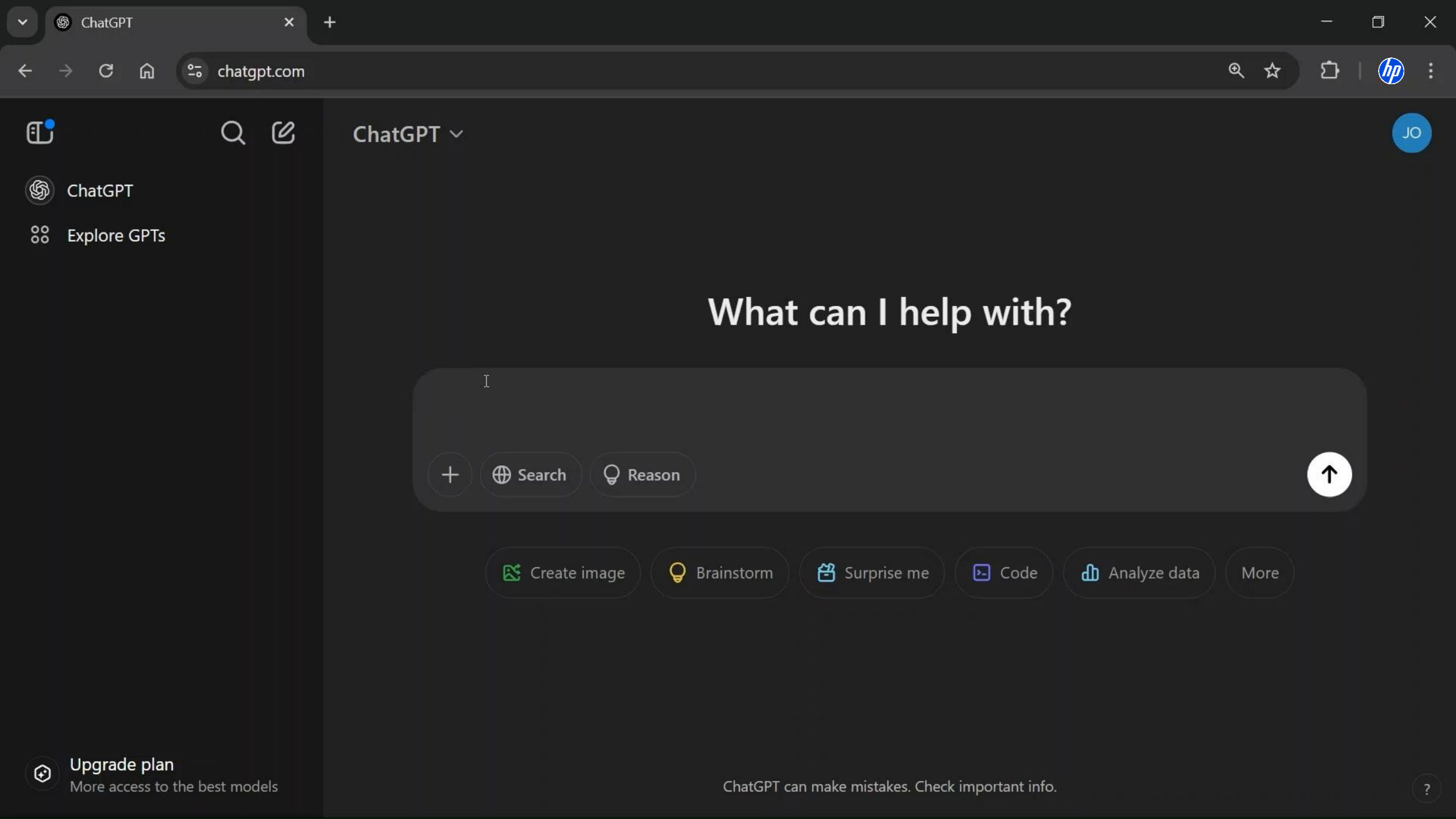
Using AI for Production and Operation of Digital Printing Machines


What is AI?

How can AI help a Digital Printing Press?




ChatGPT






🔍

📝



ChatGPT



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What can I help with?


I


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 Search


 Reason




-  Create image


 Brainstorm

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 Code

 Analyze data

More

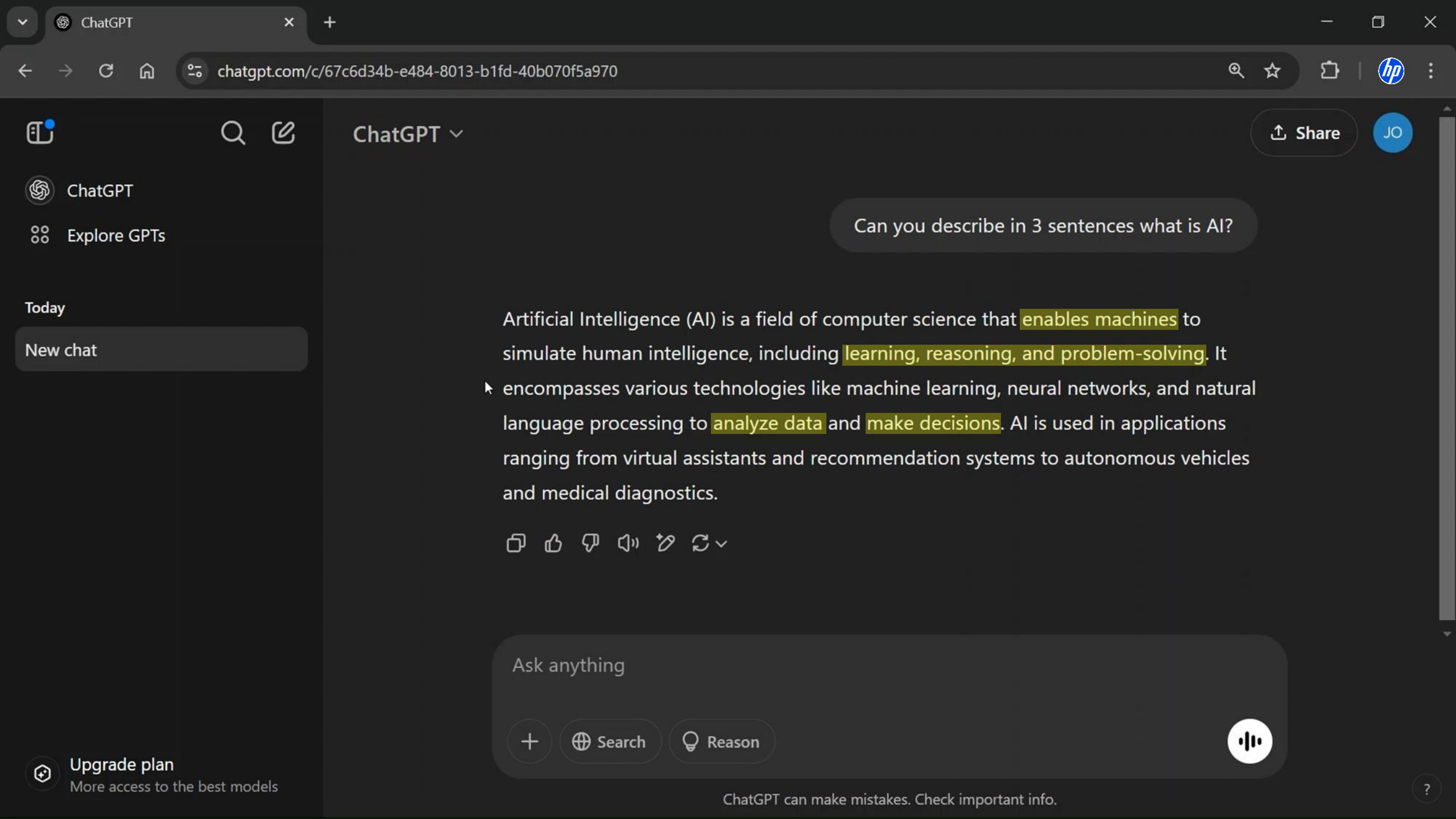


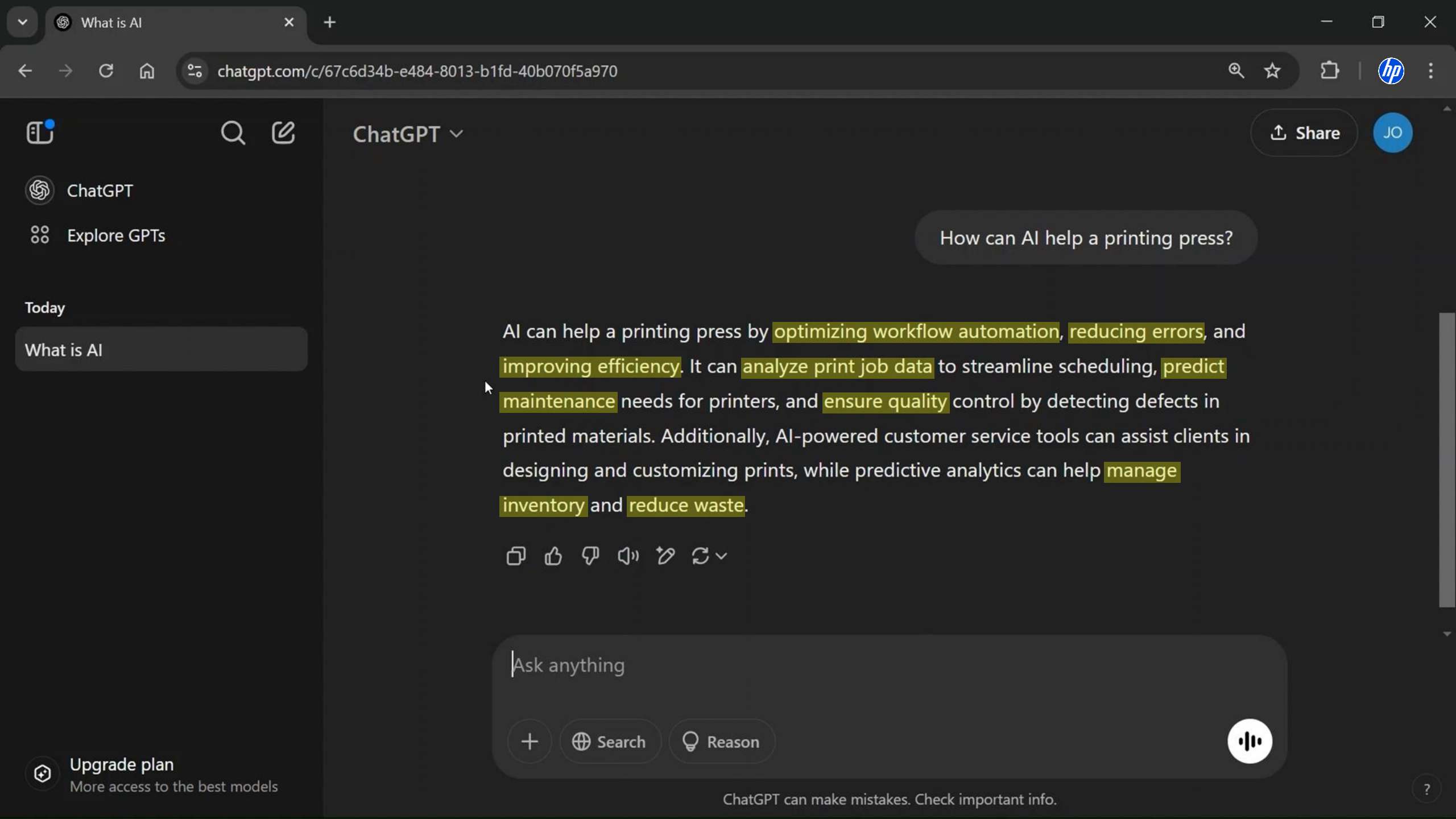
Upgrade plan

More access to the best models

ChatGPT can make mistakes. Check important info.

?





How can AI help a printing press?

AI can help a printing press by optimizing workflow automation, reducing errors, and improving efficiency. It can analyze print job data to streamline scheduling, predict maintenance needs for printers, and ensure quality control by detecting defects in printed materials. Additionally, AI-powered customer service tools can assist clients in designing and customizing prints, while predictive analytics can help manage inventory and reduce waste.



Ask anything



Search



Reason



What is AI

chatgpt.com/c/67c6d34b-e484-8013-b1fd-40b070f5a970

Share

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ChatGPT

Explore GPTs

Today

What is AI

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More access to the best models

ChatGPT

How can AI help a printing press?

1. Workflow Automation & Efficiency

AI can **optimize scheduling** by analyzing incoming print jobs, estimating completion times, and prioritizing tasks based on urgency and resource availability. This **minimizes downtime** and **maximizes machine usage**.

2. Predictive Maintenance

By monitoring equipment performance through sensors and AI-driven analytics, the system can **predict potential failures** before they happen. This reduces unexpected breakdowns, **minimizes maintenance** costs, and **increases overall machine lifespan**.

3. Quality Control & Error Detection

AI-powered computer vision can automatically inspect printed materials for defects such as misalignment, color inconsistencies, or smudging. This **ensures high-quality** output while **reducing waste** from faulty prints.

4. Personalization & Smart Design Assistance

AI can help customers **generate and customize designs** by offering template recommendations, automatic layout adjustments, and font or color suggestions based on industry trends. This makes the **design process faster** and more accessible, even for non-designers.

5. Inventory & Supply Chain Optimization

AI can analyze printing trends and **predict material requirements**, ensuring that paper, ink, and other supplies are stocked efficiently. This prevents overstocking or running out of essential materials, **saving costs** and **reducing waste**.

6. AI-Enhanced Customer Service

Chatbots and AI-driven customer support systems can assist clients with order tracking, print specifications, and troubleshooting. This **enhances customer experience** while **reducing the workload** on human staff.

7. Sustainability & Waste Reduction

AI can optimize print layouts to **reduce paper waste** and recommend eco-friendly materials based on customer preferences. It can also **analyze energy consumption** to **improve sustainability** in printing operations.

Would you like more details on any specific aspect?

ChatGPT can make mistakes. Check important info.

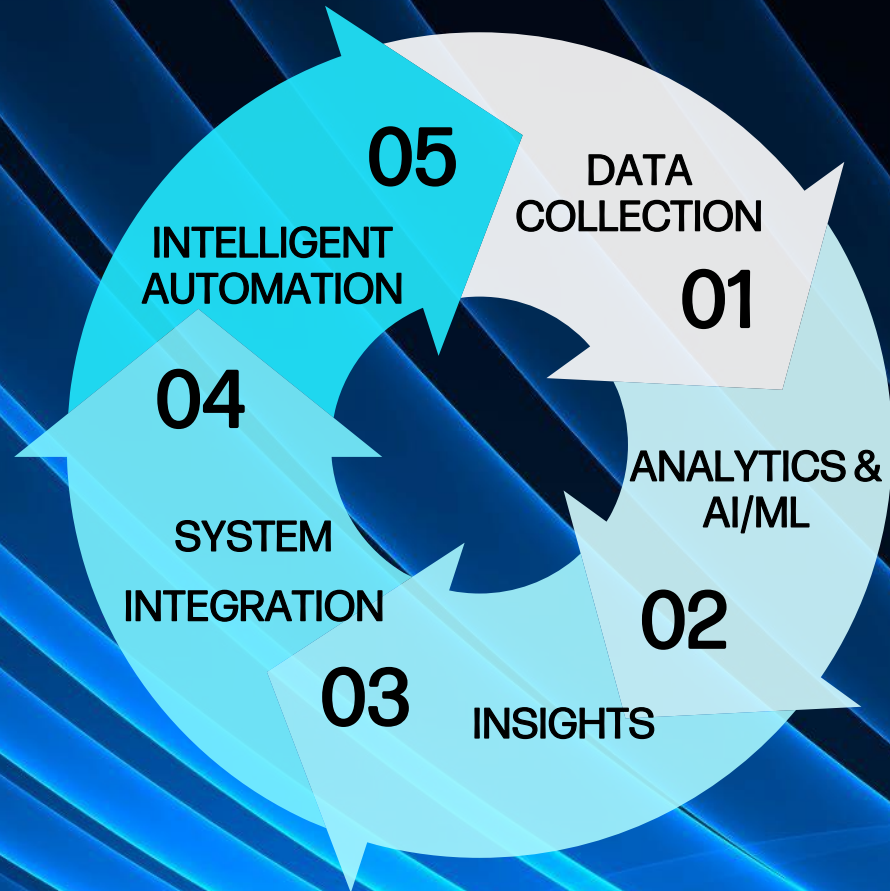
HP's Vision

To pioneer the new era of Intelligent Automation by leveraging **AI** to streamline Digital Printing and unlock its full potential.



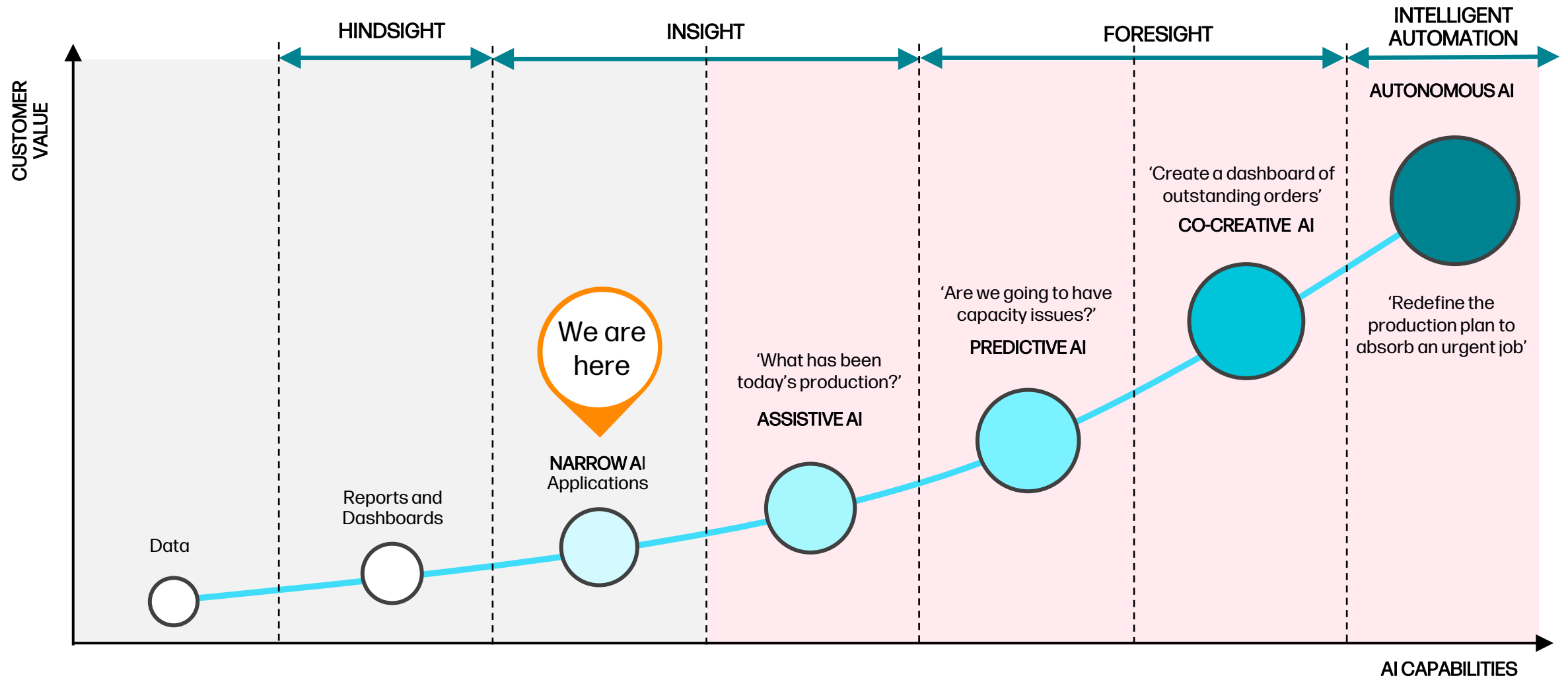
HP's Intelligent Automation Model

A scalable AI/ML platform that leverages the vast data base we have, to drive intelligent automation



- ✓ More than 40,000 devices connected
- ✓ More than 50,000 PrintOS users
- ✓ More than 15,000 monthly active users
- ✓ More than 26M Site Flow orders in 2024
- ✓ 80+ partners in HP PrintOS ecosystem

HP's Intelligent Automation Roadmap



Making AI Real & Valuable for Our Customers



EVALUATE

Provides order management and **business insights** for revenue expansion and optimization.

PREPARE

Streamlines the order-to-job process, costing, and quotations to **accelerate sales** conversion.

MANAGE

Automates **catalog creation** to efficiently manage offerings.

AUTOMATE

Optimizes **order routing** based on production capabilities, type of product, customer location and SLAs



MONITOR

Delivers real-time job delivery and shift **productivity insights** for immediate performance tracking.

PLAN

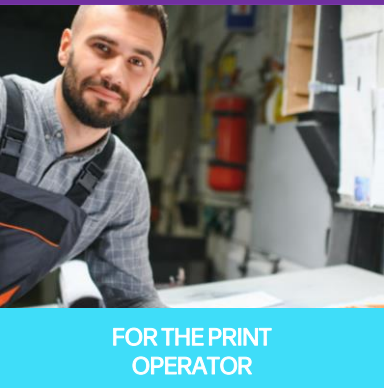
Optimizes asset allocation, job routing, and batching to ensure smooth and **efficient scheduling**.

PREPARE

Automates proofing, error-checking, job characterization, and RIP optimization to **minimize manual intervention**.

OPTIMIZE

Forecasts **maintenance** needs, refines media usage, and enhances OEE for maximum production efficiency.



MONITOR

Provides job management and fleet **productivity insights** for operators to maintain continuous workflow.

LEARN

Offers knowledge on-demand and guided **troubleshooting** to quickly build operator expertise.

PREPARE

Automates device setup, color calibration, and corrections to **reduce errors** and ensure consistent, high-quality output.

ACT

Automates Real-time **quality control** and press calibration enable swift adjustments and maintain top performance.

HP AI Strategic Objectives



Simplify customer
experience

75%

Up to 75%
labor time
reduction

Maximize
productivity

20%

Up to 20%
printing time
increase

Streamline service
& support

50%

Up to 50%
support cost
reduction

Print providers have increased their AI adoption

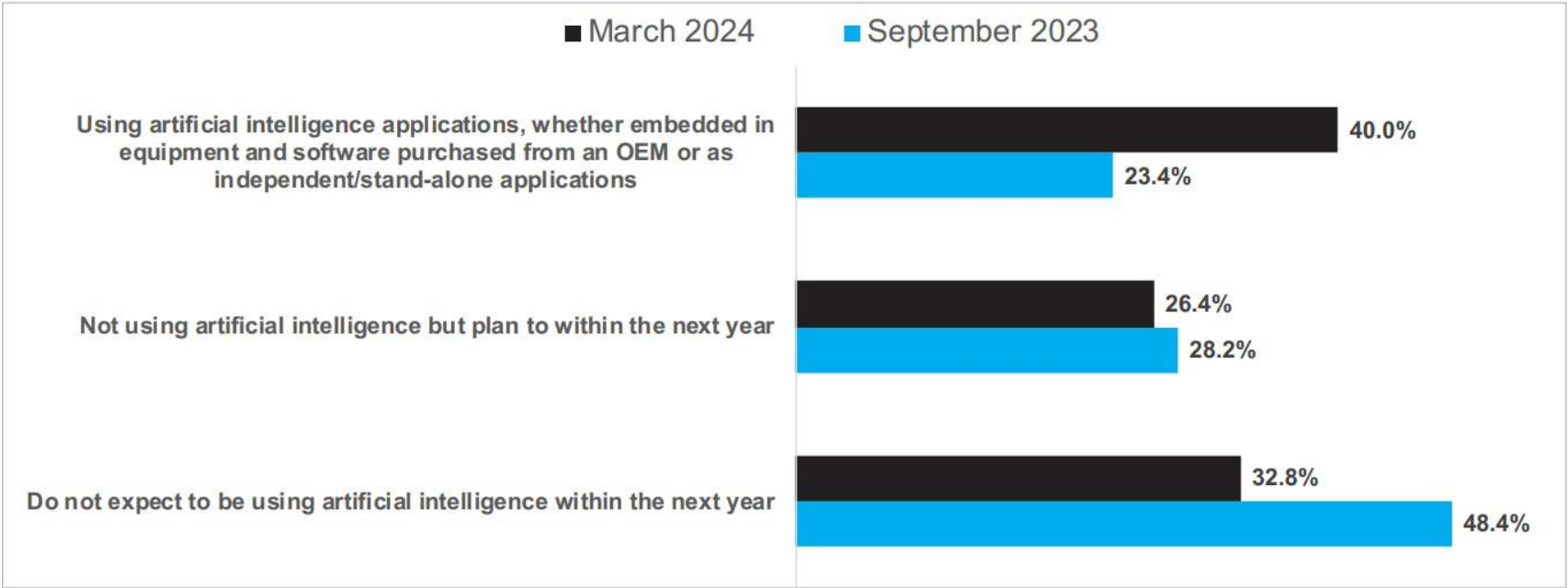
38%

of print providers report investing in AI to enhance **operations**, including predictive maintenance, quality control, and supply chain logistics.

25%	27%	20%
Marketing operations	Sales operations	Content creation

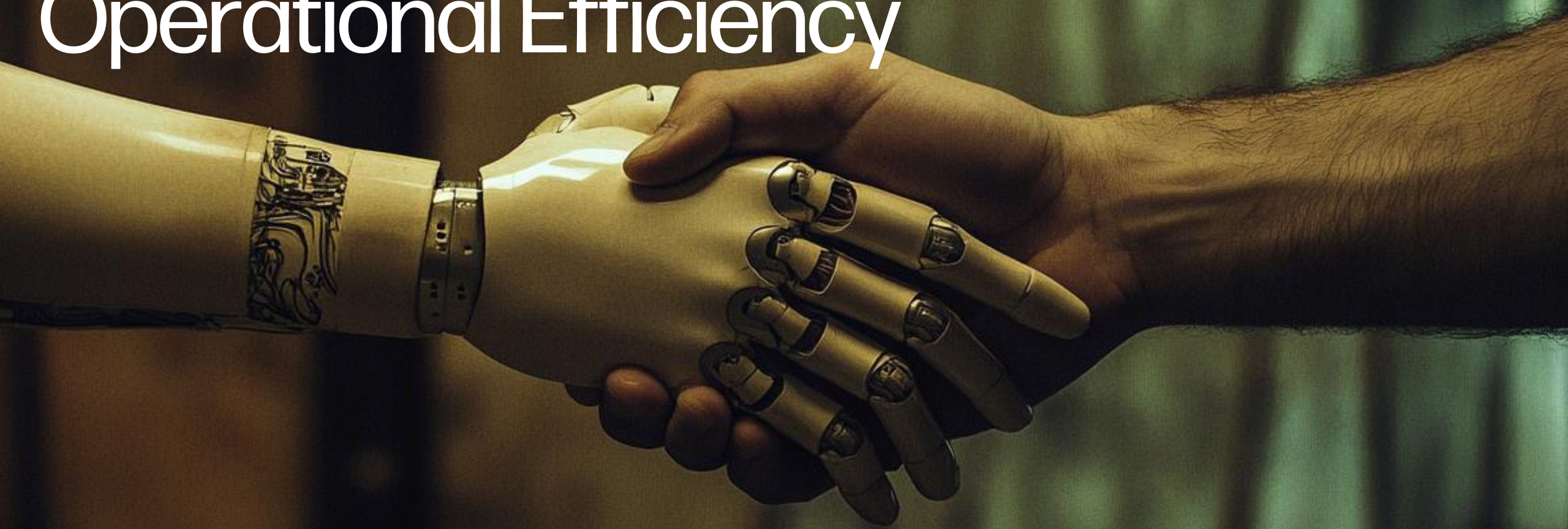
Figure 1: Print Providers AI Use is Increasing

Q. Which of the following is true for your company?



n=191 Print Providers

AI Intelligent Automation and Operational Efficiency



Three layers of Print Automation



End-to-end production automation

Enhancing press performance with
Software Tools

Press automation

Print
Automation

On the Press: Boost productivity with AI-based capabilities

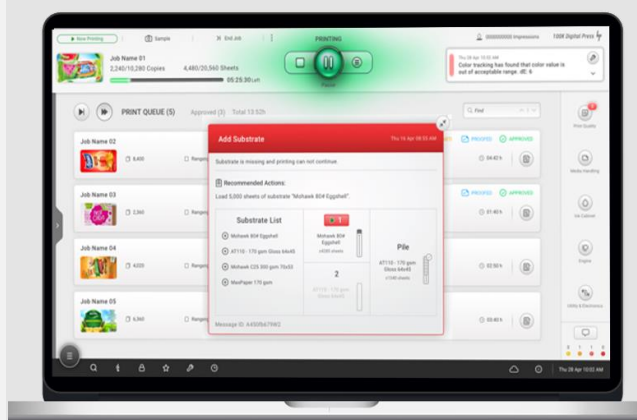
Auto recovery

Press goes back to print automatically with no manual intervention



Proactive communication

Real time notifications to operators to save time and boost productivity



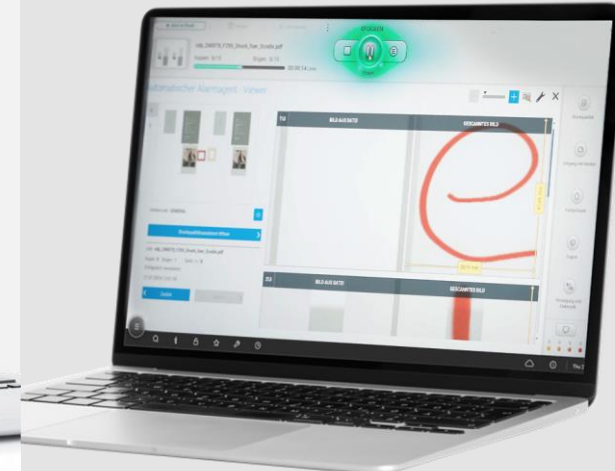
Automated morning routine

AI-based software for automated and simplified image quality troubleshooting and diagnostics



Automatic Defect Detection

Automatic detection of print quality defects, and immediate reprint while disposing of the defective sheets the scrap



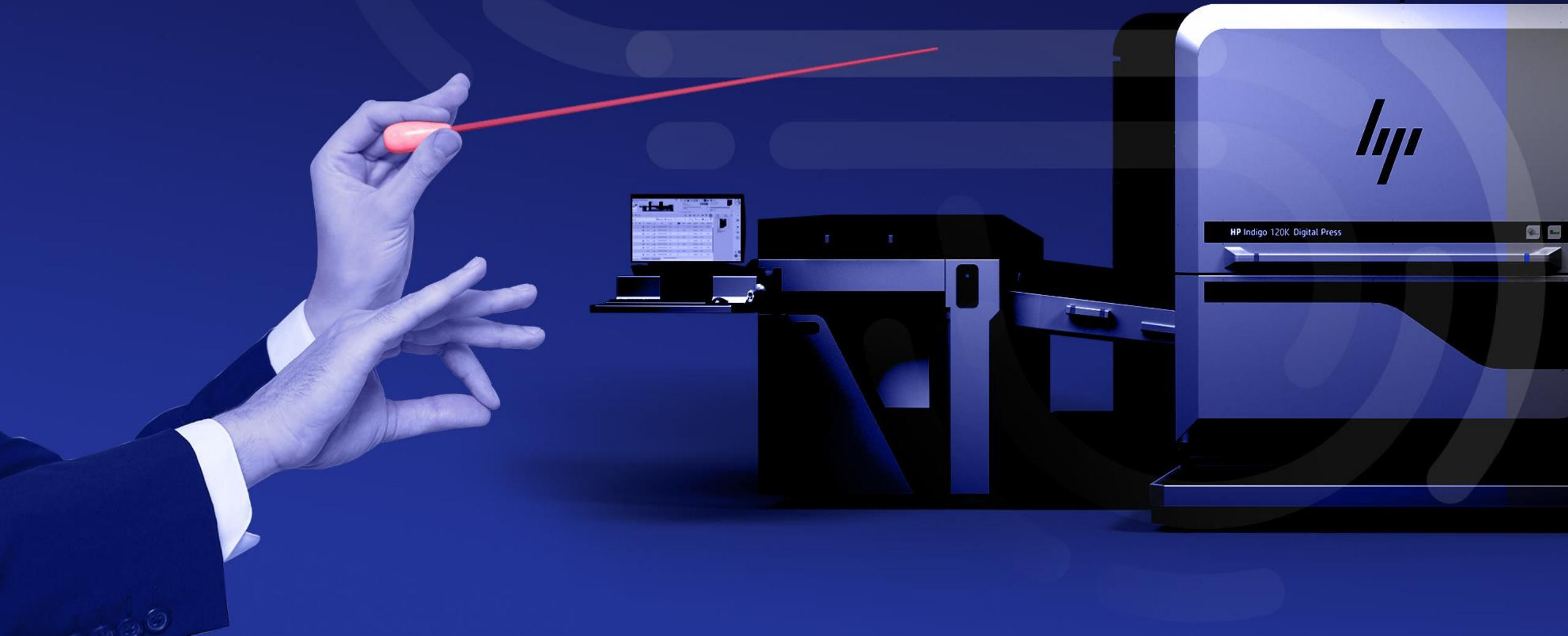
HP has been in AI for a while....

- **HP SmartStream Designer**
Mass Customization Solutions in partnership with Bria for content generation
- **HP Automatic Alert Agent (AAA)**
Image recognition agent to automatically detect and separate defective pages
- **HP Auto-recovery**
resolve automatically failures without requiring operator intervention
- **HP PQ Maestro**
Start of day wizard, bringing the press to the expected PQ level based on user samples



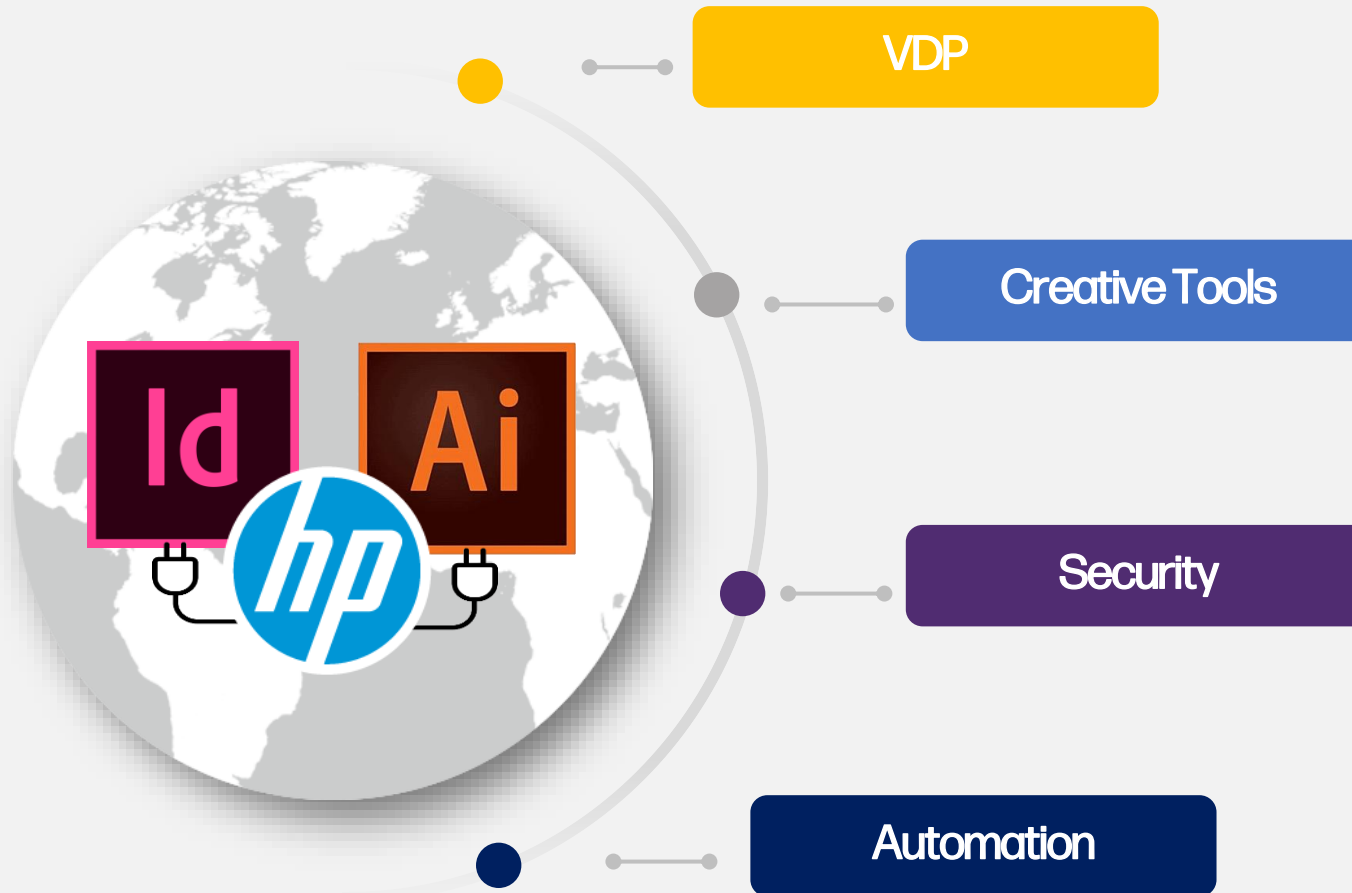


HP SmartStream Designer



HP SmartStream Designer

Mass Customization Solutions in partnership with Bria for content generation



KUBO
TWO STRINGS





Store in a dry place.
Protect from heat.

Best before
e 95 g

7 622210 497369

OFFICIAL PARTNER
OF LIVERPOOL FC

Milk chocolate. Ingredients: Milk^{***}, sugar, cocoa butter, cocoa mass, vegetable fats (palm, shea), emulsifiers (E442, E476), flavourings. May contain nuts, wheat. ***The equivalent of 426 ml of fresh liquid milk in every 227 g of milk chocolate. MILK SOLIDS 20% MINIMUM, ACTUAL 23%. COCOA SOLIDS 20% MINIMUM. CONTAINS VEGETABLE FATS IN ADDITION TO COCOA BUTTER.

ROYAL WARRANTED
BY APPOINTMENT TO HER MAJESTY THE QUEEN
AND HIS ROYAL HIGHNESS THE PRINCE OF WALES
CANDIDATE FOR THE ROYAL WARRANT

Nutrition Information			
	Per 100 g	Per 6 Chunks (23.8 g)	*Reference Intakes
Energy	2232 kJ 534 kcal	530 kJ 127 kcal	8400 kJ / 2000 kcal
Fat	30 g	7.2 g	70 g
of which Saturates	18 g	4.4 g	20 g
Carbohydrate	57 g	13 g	260 g
of which Sugars	56 g	13 g	90 g
Fibre	2.1 g	0.4 g	-
Protein	7.3 g	1.7 g	50 g
Salt	0.24 g	0.06 g	6 g

LIMITED EDITION CHAMPIONS BAR

BeTreatwise.net 530 kJ / 127 kcal
= 1 Portion 6%*

Per 100 g 2232 kJ / 534 kcal

Made under licence from Cadbury UK Ltd. We are passionate about our great quality Cadbury products.

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www.cadbury.co.uk

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Each 23.8 g (6 chunks) contains:

	Per 100 g	Energy	Fat	Saturates	Sugars	Salt
	2232 kJ 534 kcal	530 kJ 127 kcal	7.2 g	4.4 g	13 g	0.06 g
	6%	6%	10%	22%	14%	1%

*% reference intake of an average adult (8400 kJ / 2000 kcal)
4 portions per bar

THE KOP





One
in a
billion

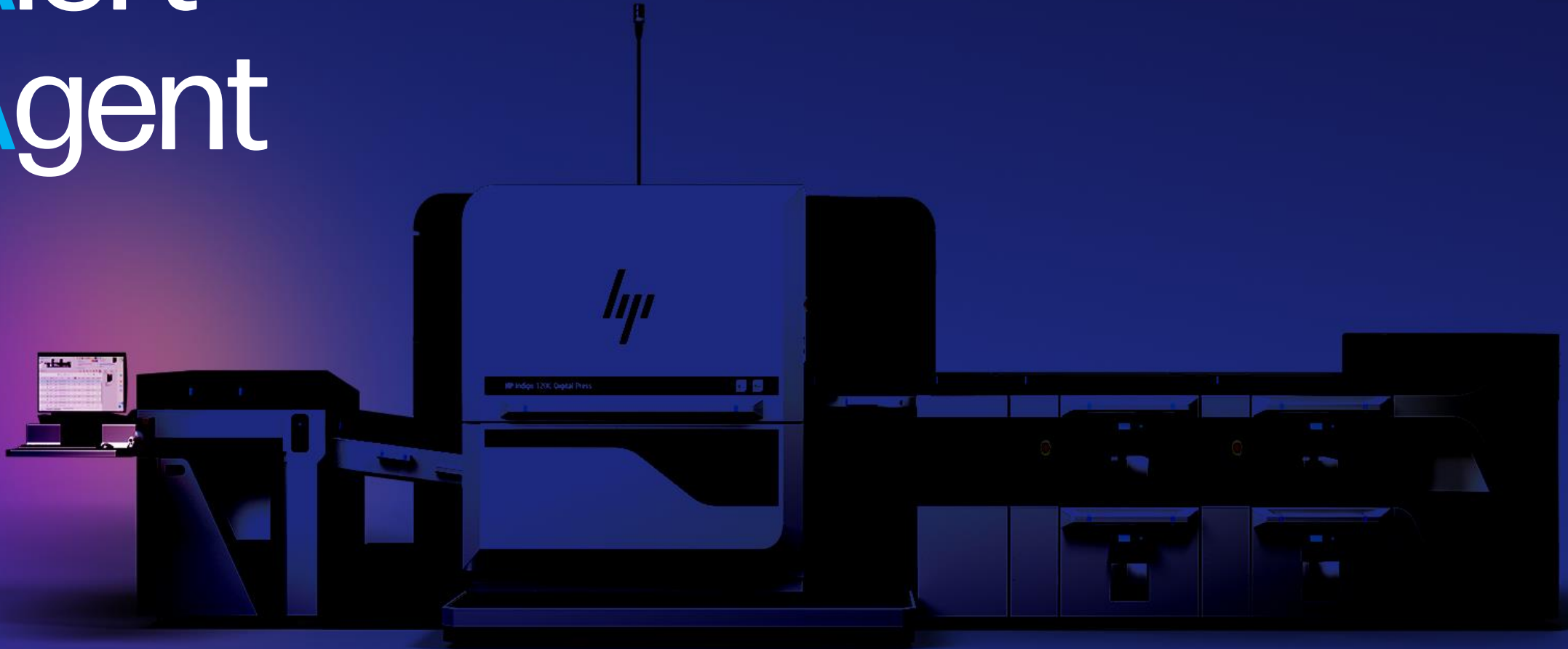




34,000,000 Images Generated
With AI Per Day

AI has already created as many images as
photographers have taken in 150 years

Automatic Alert Agent



HP AAA System

Auto detect, discard and reprint defected sheets on the fly

AAA not only improves press productivity, but also
increases entire line efficiencies

.....
Increase press uptime
.....

.....
Reduce paper waste
.....

.....
Meet customers image quality expectations
.....



HP AAA System

OFF
ON

Mode

☐ No inspection
☐ Stop on defect
☐ Warn on defect

Print Preferences

Job Options

☒ Scan all printed sheets for Printout Viewer

Divider and Offset

Automatic Alert Agent

Internal Processes

Mode

☐ No inspection
☒ Stop on defect
☐ Warn on defect

Cleaner Page

☒ Show alert viewer screen when stop on defect
☒ Use reprint mode

Full Stop

☐ Warn on defect

For Calibration

Proof

Sample

Print Mode

Scanning and

Properties

☐ Use job definition

Sensitivity level

0

0

When detection sensitivity level = 1, only major defects detected.
When detection sensitivity level = 5, most defects detected (include minor).

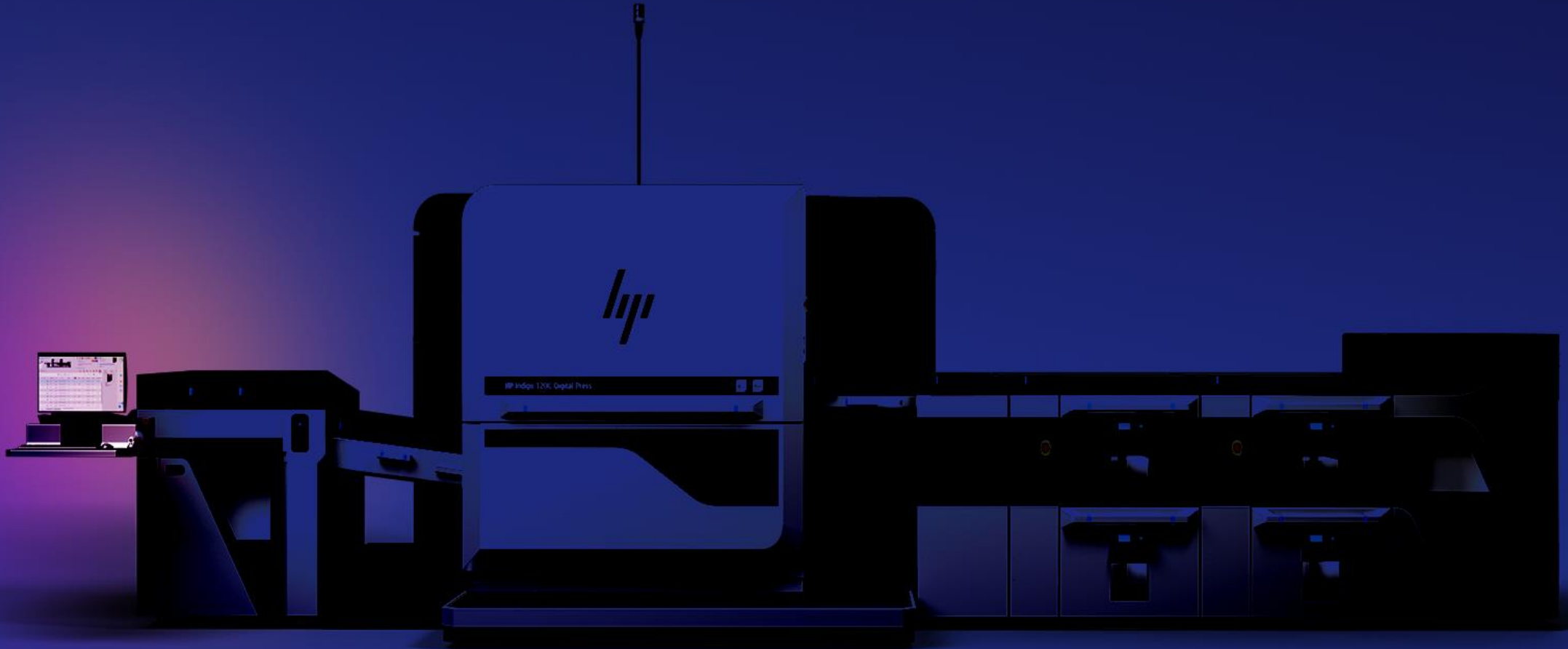
Area for inspection:

☒ Full page
☐ Printed area
☐ Custom





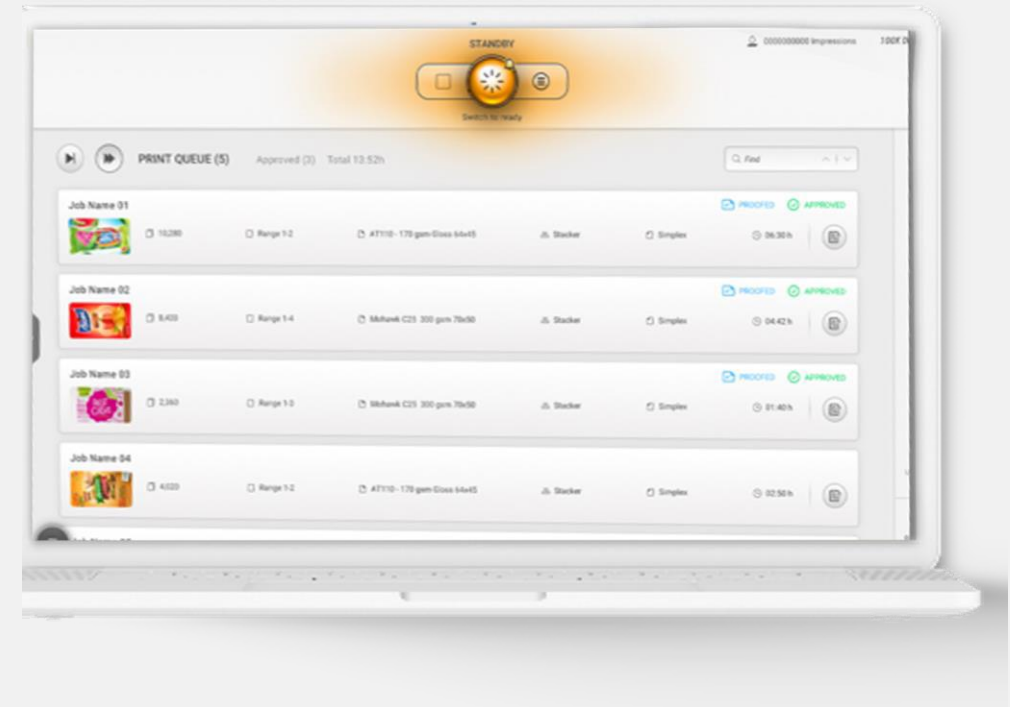
HP Auto-recovery



HP Auto-recovery

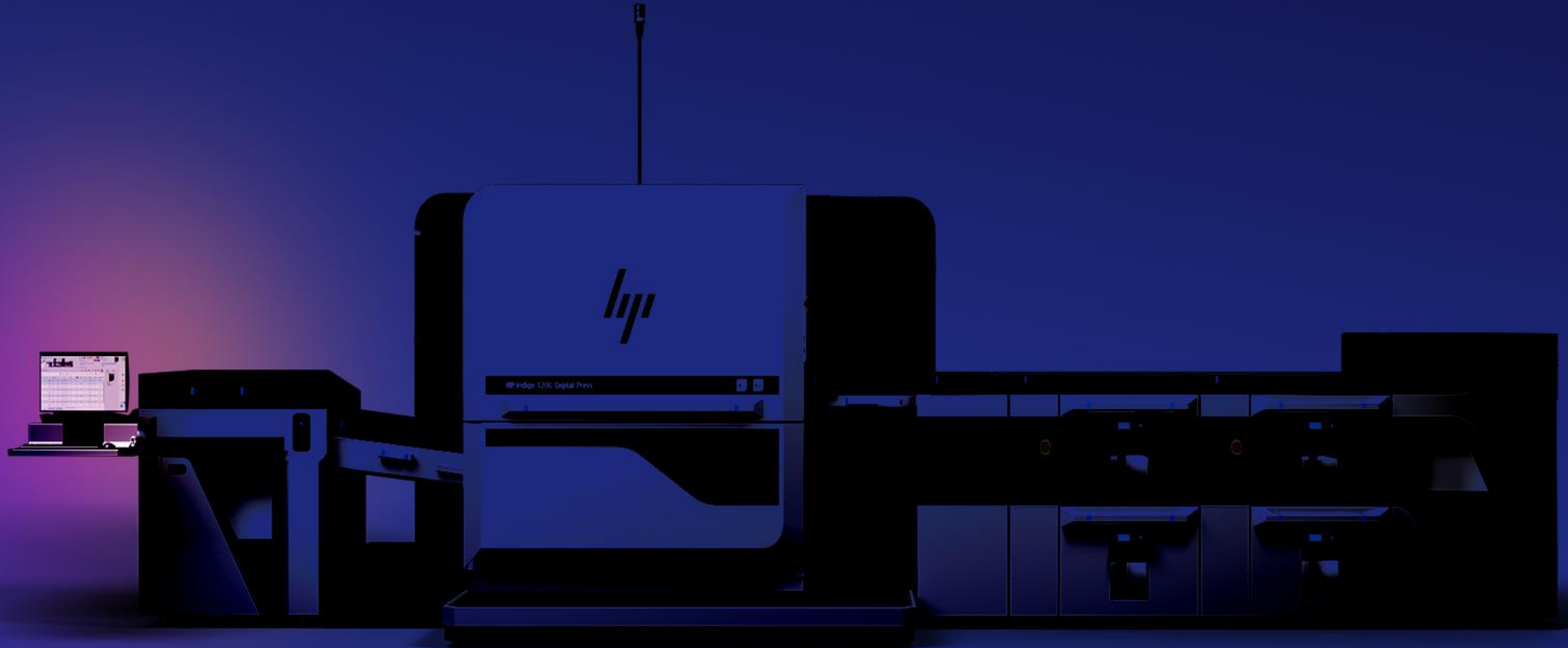
Auto recovery

At least 15% of failures resolved automatically without requiring operator intervention





HP PQ Maestro



HP PQ Maestro

AI-based software for
automated and simplified image
quality troubleshooting and
diagnostics

.....
Easy beginning of shift procedure
.....

.....
Automatic defect detection
.....

.....
Step-by-step corrective actions
.....

.....
Reduce the need for highly skilled operators
.....

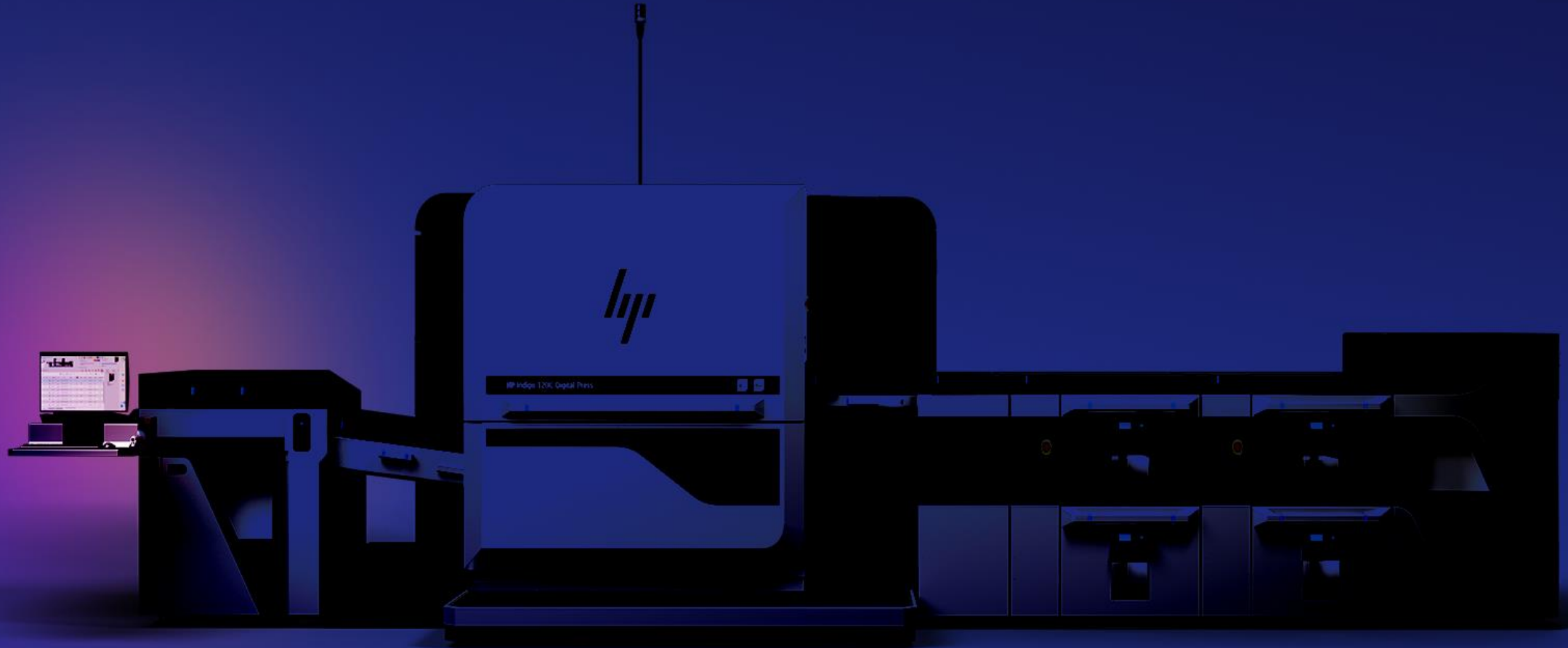
Uptime
boost

Reduced
labor





HP Preflight – Automatic Decision Tool



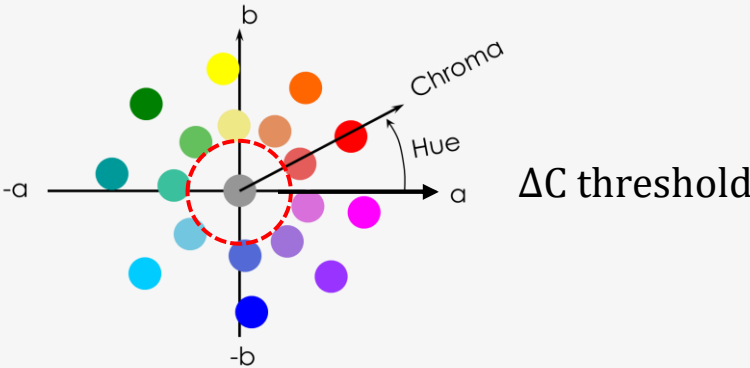
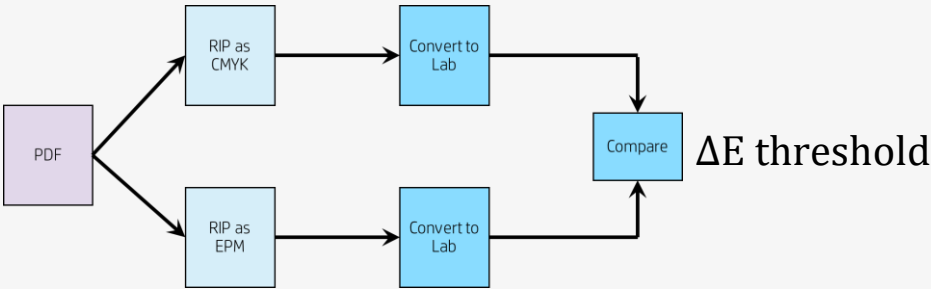
HP Preflight existing algorithm



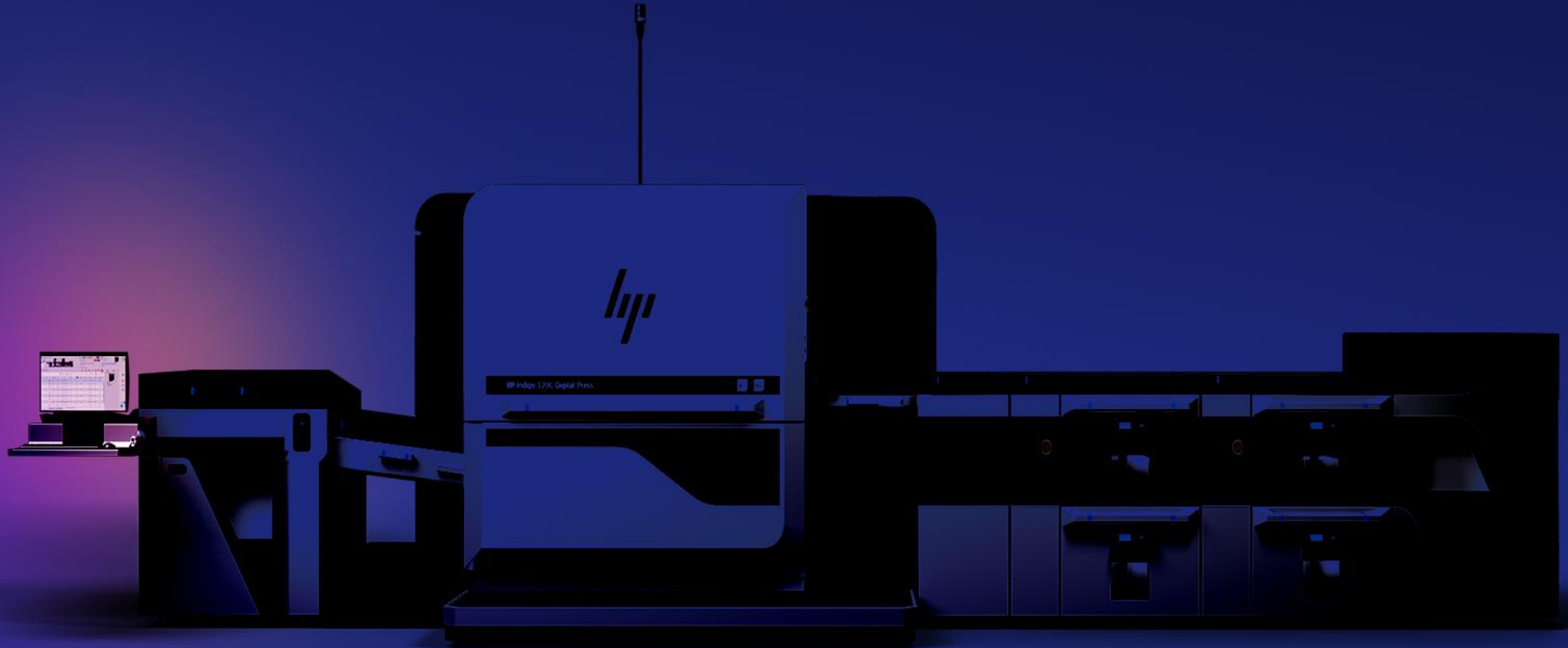
Blob size: patch frame scanning the job, checking whether 90% of the pixels, valuating one of the color checks



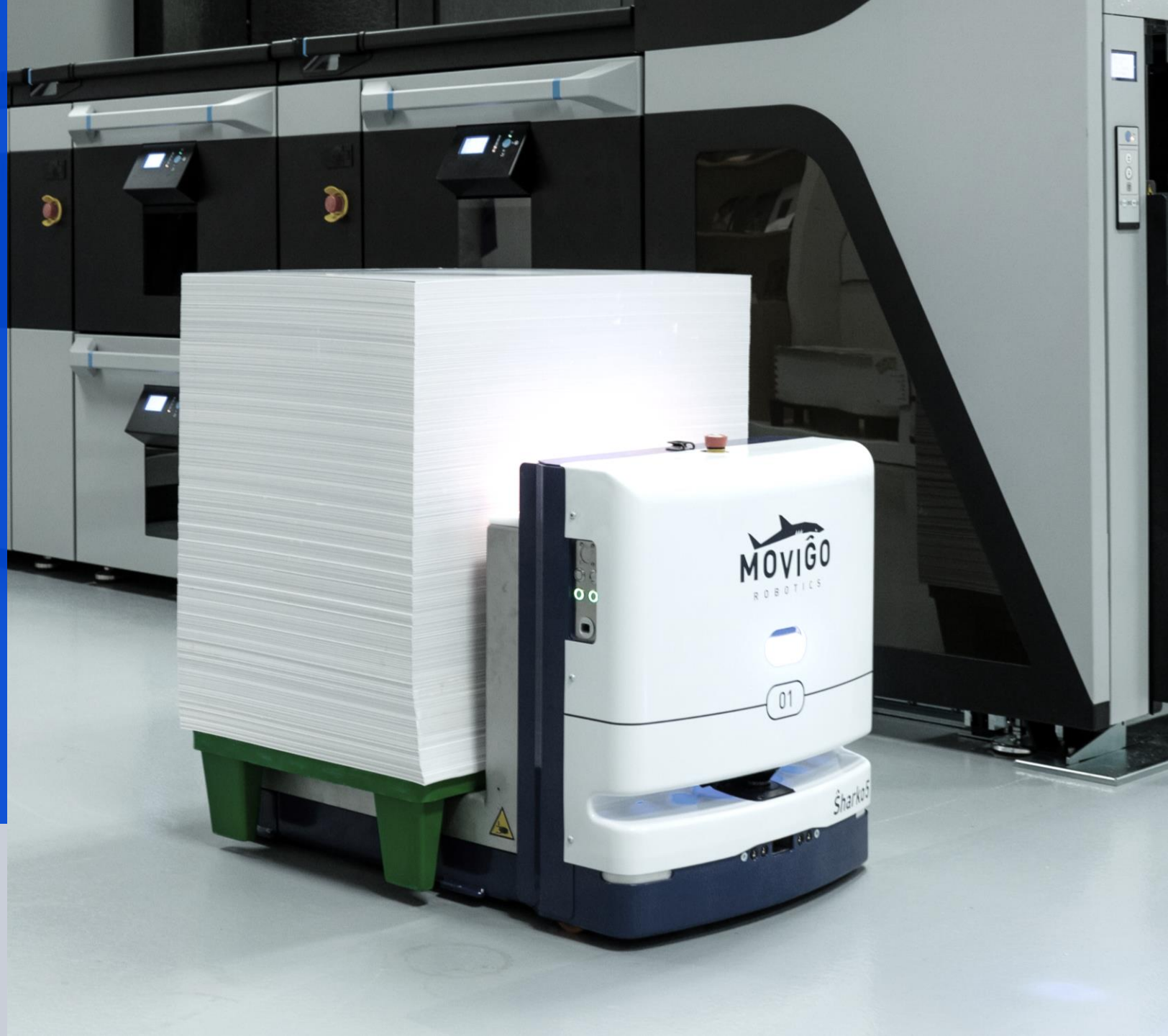
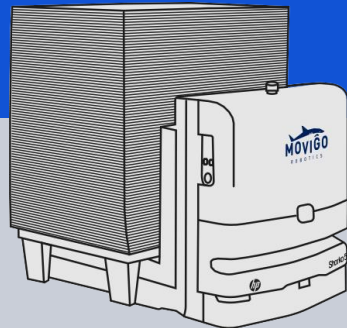
Small black elements



Advanced Robotics

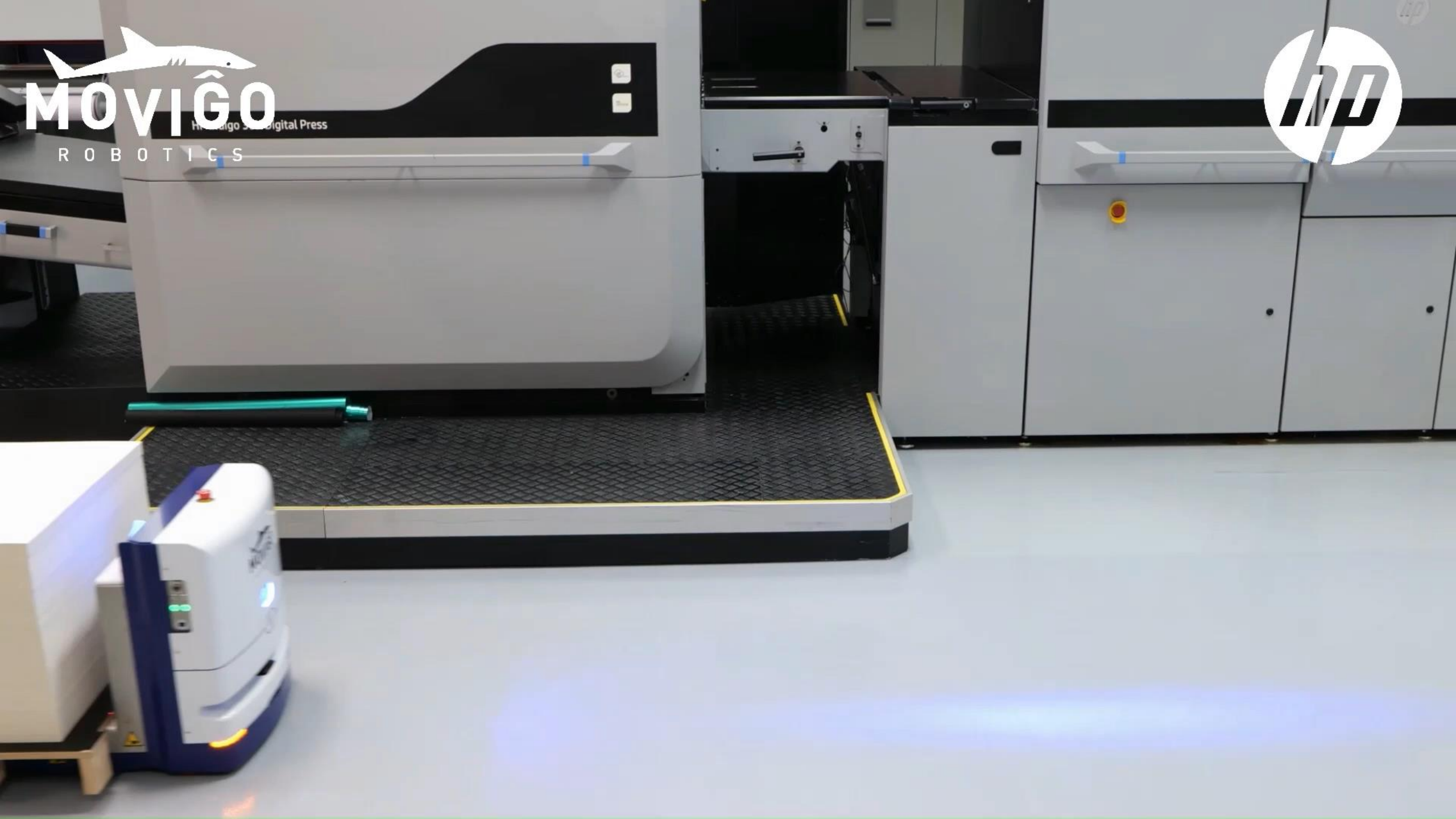


Future-ready:
lights-out
production sites
powered by
advanced
robotics




MOVIGO
ROBOTICS

HP Indigo 5000 Digital Press







Thank You!