

PDF/SOLUTIONS®
2025 Users Conference

Deep Dive
PDF Solutions
Technical Strategy

Peter Kostka

December 3, 2025



02.

ModelOps Next Steps



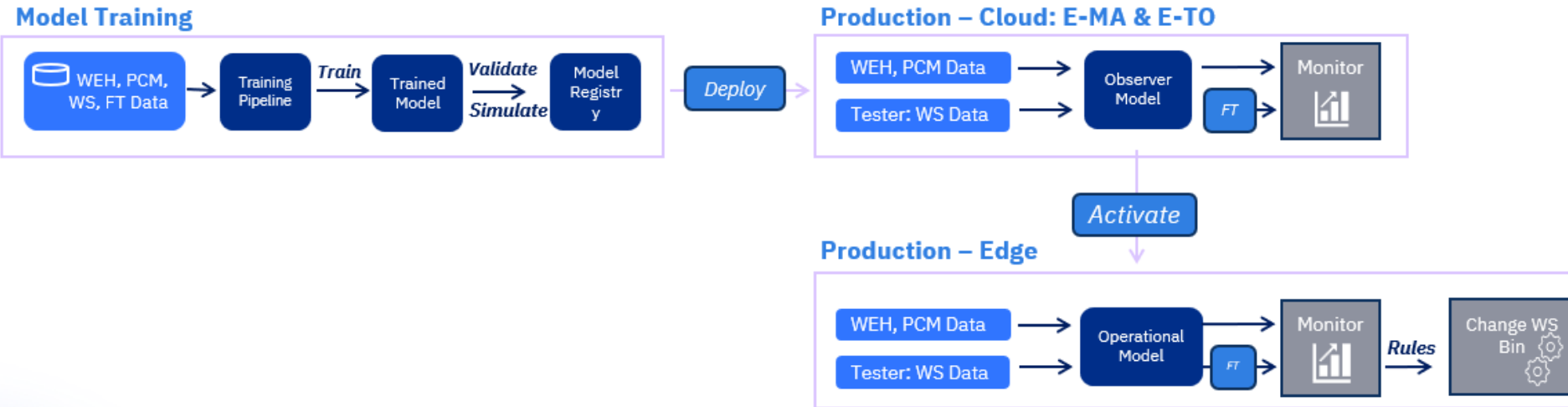
Jeff David, PDF Solutions | Ali Ahmadi, Intel

PDF
SOLUTIONS®

Introduced Last Year - ModelOps

A new product category established for the semiconductor industry

Create, Manage and Control models across their lifecycles



***This Year* → PDF Solutions announces the addition of Tiber AI Studio from Intel to its suite of MLOPS capabilities**

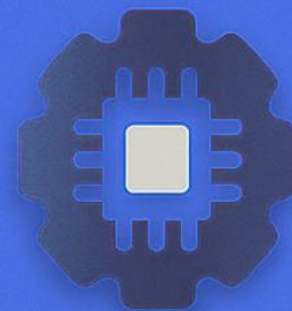




MODEL OPS

+

**TIBER AI
STUDIO**



**EXENSIO
STUDIO AI**

Exensio Studio AI

Create, Manage and Control models across their lifecycles

Single platform for
all data in Exensio

Infrastructure for
semiconductor-
specific data and
use cases

Train, deploy,
execute, and
monitor models

Centrally trained,
multiple
deployment
locations

Flexible data
science platform

Bring your own
algorithm, build and
execute your own
models

Integrated with
Exensio systems

Ability to link
multiple
semiconductor
systems together

ERP and MES for
sourcing data to feed
forward to next step

Deploy to multiple
OSAT's, the testing
floor, and edge boxes

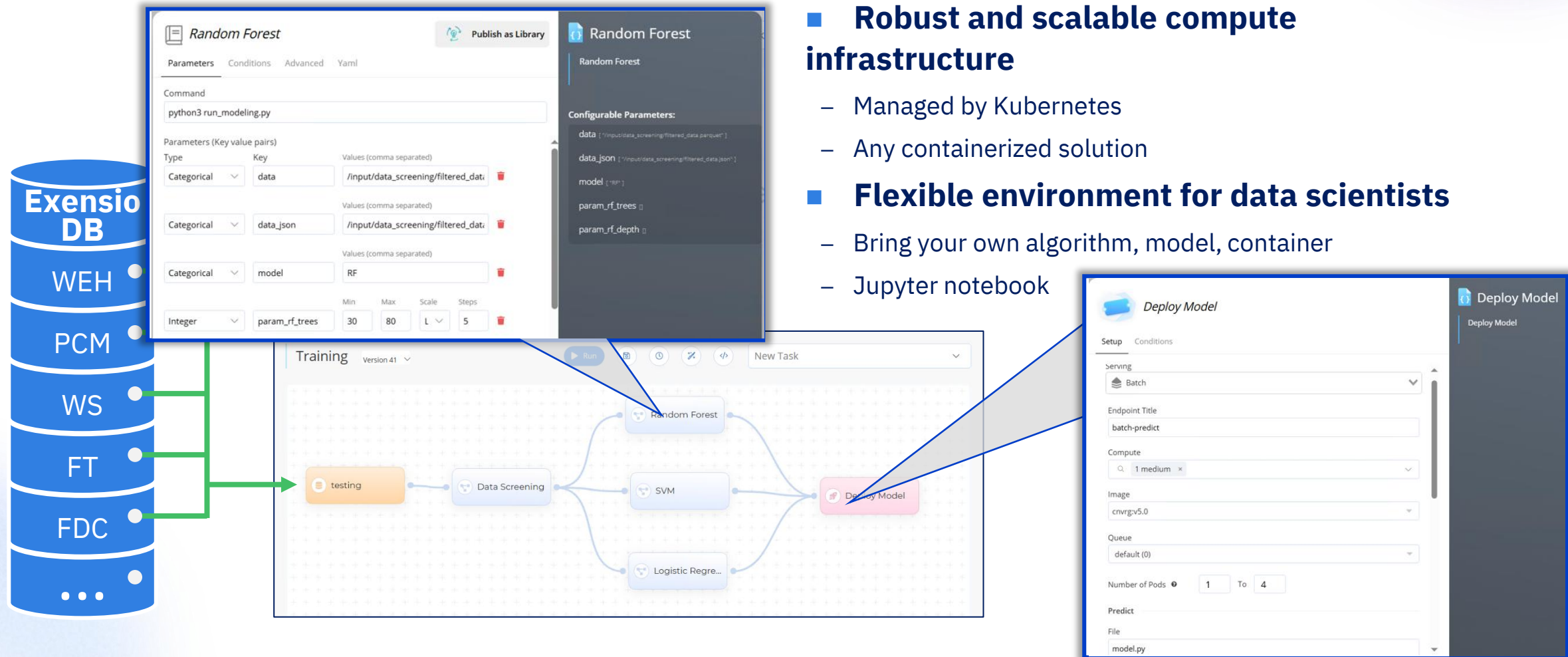
Robust and highly
scalable

Production proven

Built on
Kubernetes

Modelops + Tiber AI Studio - > Exensio Studio AI

Enables data scientists to easily bring their own solutions to production



■ Robust and scalable compute infrastructure

- Managed by Kubernetes
- Any containerized solution

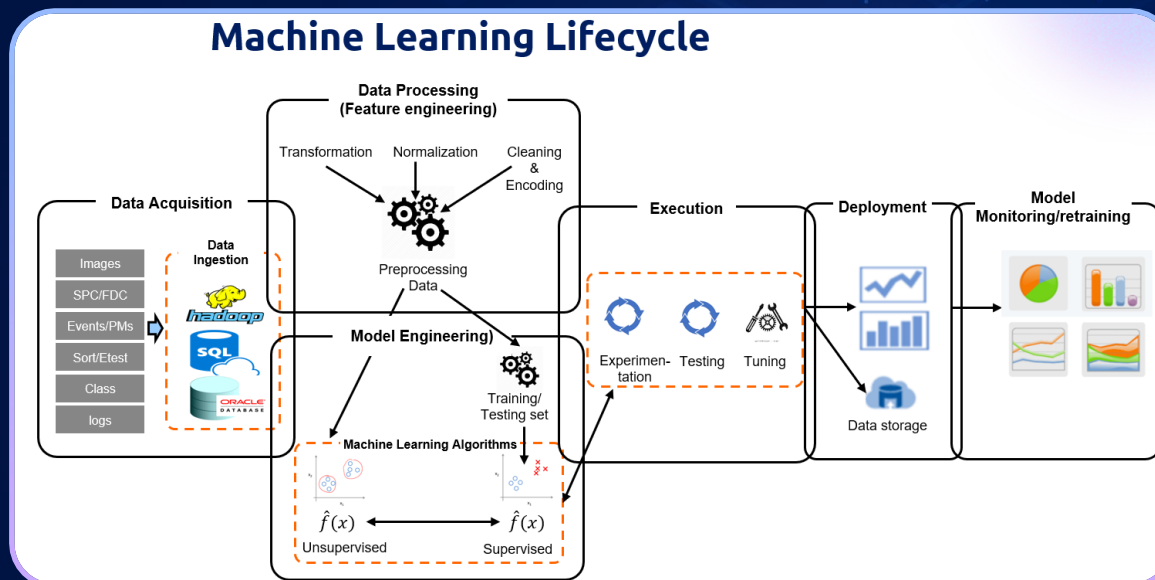
■ Flexible environment for data scientists

- Bring your own algorithm, model, container
- Jupyter notebook

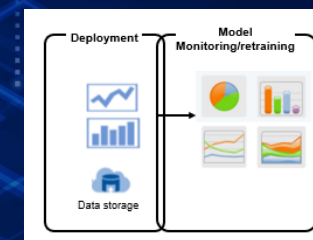
Exensio Studio AI – MLOps Platform

- Bring your own container
- Flexible resources: CPU/GPU/Gaudi
- Data integration options

- Experimentation
- Version control
- Collaborate
- AutoML

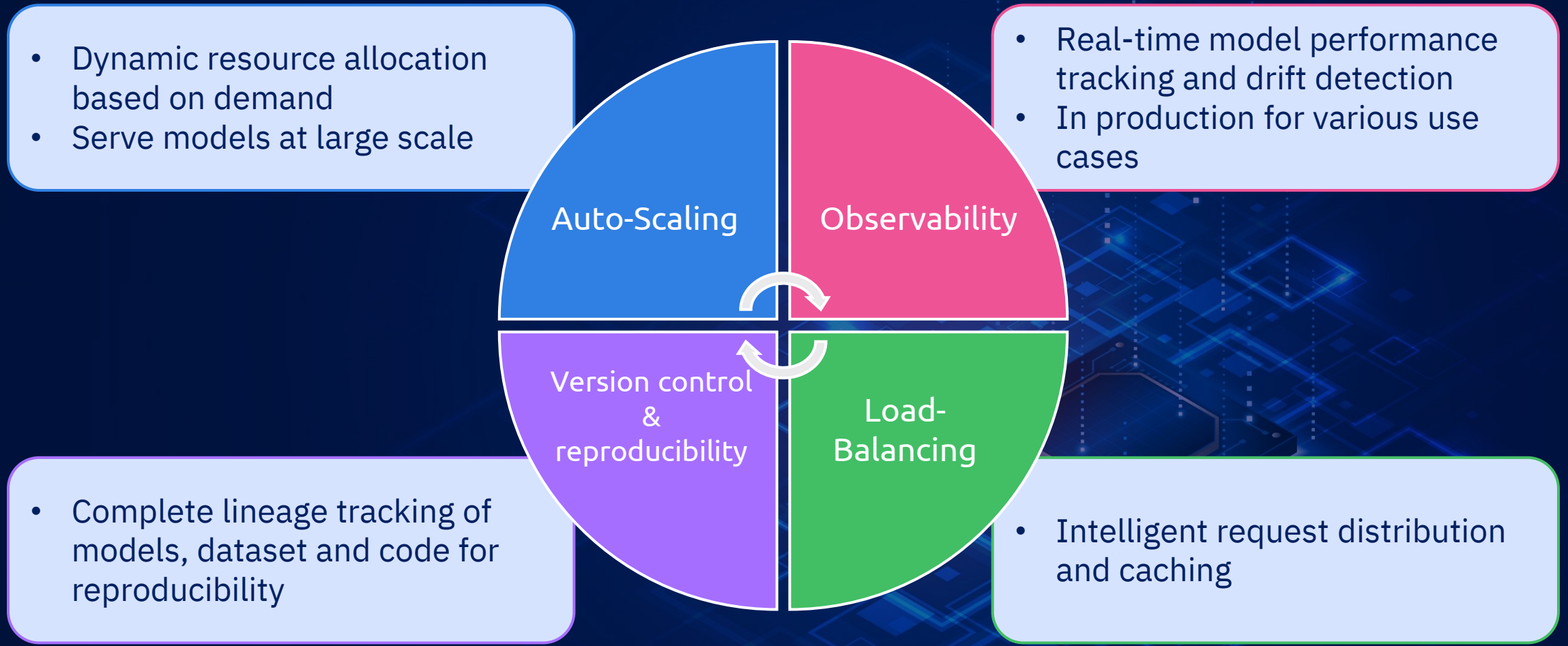


- Seamless deployment
- Save trained models and artifacts
- Support API-based deployment



- Experiment to support model monitoring
- Schedule retraining and redeployment
- Visualize metrics

Exensio Studio AI – Scalability & Robustness



Generalized features

Generalized compute infrastructure

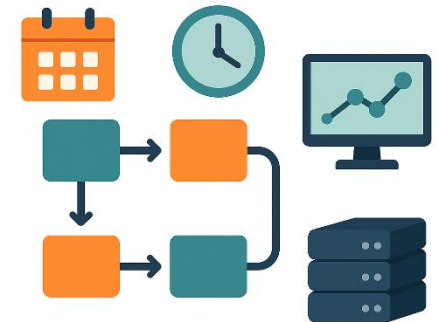
- Supports Spark, Tensorflow, GPU, Python, anything in a container
- Cluster managed by Kubernetes

Auto-ML capabilities

- Run pipelines (flow) with logic
- Schedule jobs
- Basic monitoring
- Deploy models within the cluster

Flexible data science support

- Bring your own algorithm, model, container
- Jupyter Notebook and container environments
- Basic file management
- Clean and intuitive UI



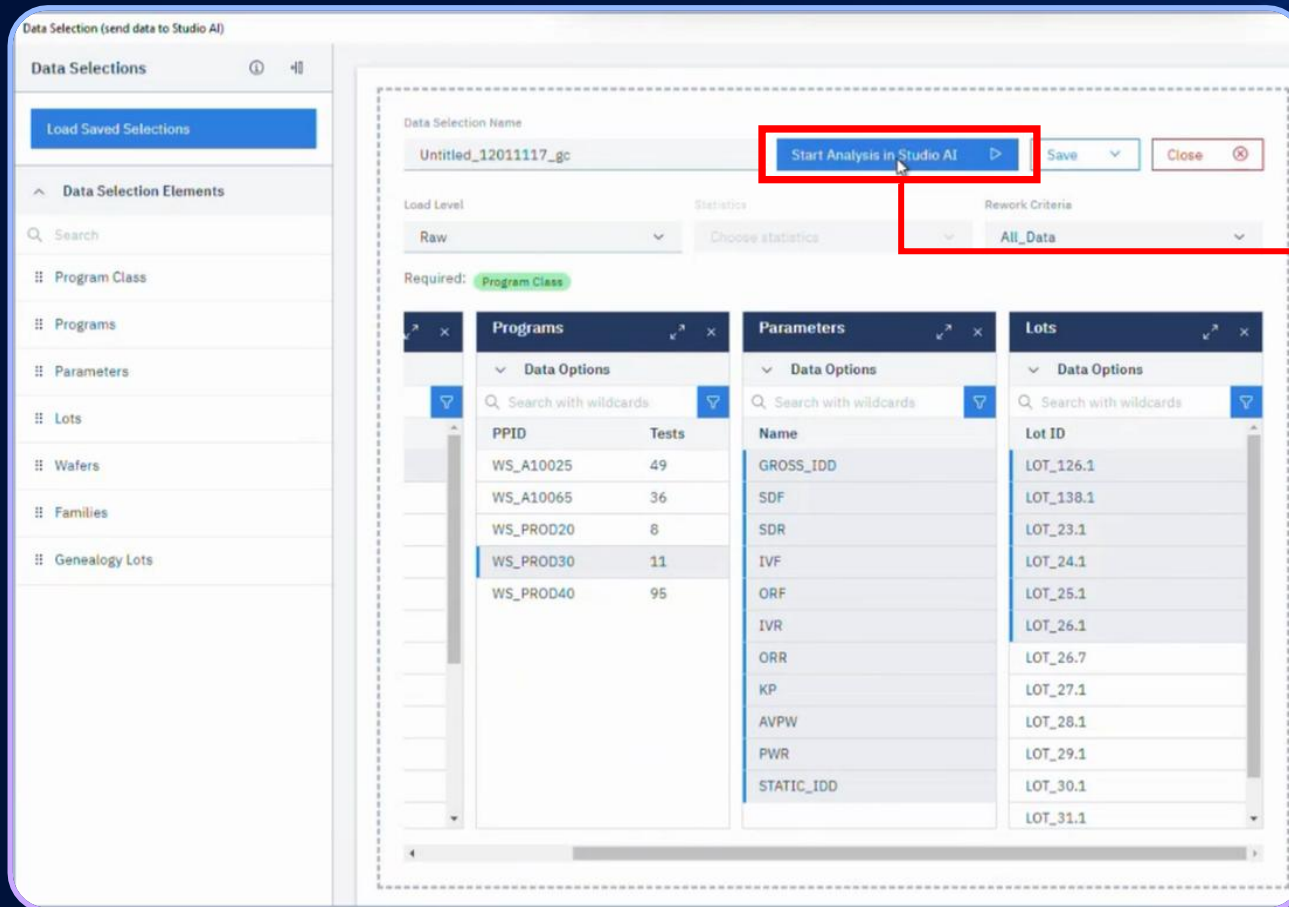
Auto-ML capabilities



Flexible data science support

Exensio Studio AI - Integration

Train, Deploy, Execute, and Monitor Models



Pull data from
Exensio DB to train
models in Studio AI

*Integrated into Exensio
workflows*

Exensio Studio AI - Integration

Train, Deploy, Execute, and Monitor Models

The screenshot displays the Exensio Studio AI interface. On the left is a sidebar with navigation links: Home, Operational Status, Rules, Rules List, Rules Set List (selected), Rules Simulation, Rules Set Simulation, Simulation Status, Simulation Dashboards, Limit Approval, and Configuration. The main area is titled 'Test Operation Central' with version 6.2.0.29960. It features a search bar with filters for Name (PDF), Status (All (not deleted)), and Target (ALL). Below the search bar is a table of Rules Sets. The table has columns for #, Name, Revision, Status, Target, Type, Enabled, and Tools. One rule is listed: PDF-WS1-PUG, Revision 1, Status ENGINEERING, Target MLJE Server, Type MLJE Server, and Enabled. Below the table, it says 'Showing 1 to 1 of 1 entries'. To the right of the table is a detailed view of the selected rule, PDF-WS1-PUG. It shows a table of Rule Order, Name, Type, and Enabled. The rule is of Type FFP and is Enabled. Below this is a table of Test Name and Test Number. The tests are: WS1_33_SCAN_TDF_VMINSEARCH_CPU_0 (33), WS1_36_SCAN_TDF_VMINSEARCH_CPU_3 (36), WS1_57_MBIT_SERDES60_A_VNOM_1P1G (57), and WS1_6_IDDO_SERDES25_B (6). Below the table, it says 'Showing 1 to 4 of 4 entries'. At the bottom is a table of Revisions. The revision is 1, created by 'engineer' at 17-NOV-2025 11:04:09, Status ENGINEERING, and Enabled.

#	Name	Revision	Status	Target	Type	Enabled	Tools
1	PDF-WS1-PUG	1	ENGINEERING	MLJE Server	MLJE Server	✓	

Showing 1 to 1 of 1 entries

Rule Order	Name	Type	Enabled
1	DFF-WS1	FFP	T

Test Name	Test Number
WS1_33_SCAN_TDF_VMINSEARCH_CPU_0	33
WS1_36_SCAN_TDF_VMINSEARCH_CPU_3	36
WS1_57_MBIT_SERDES60_A_VNOM_1P1G	57
WS1_6_IDDO_SERDES25_B	6

Showing 1 to 4 of 4 entries

Revision	Creation	Status	Enabled	Comments	Tools
1	engineer at 17-NOV-2025 11:04:09	ENGINEERING	✓		

Set up rules for DFF

Integrated into Exensio workflows

Exensio Studio AI - Integration

Train, Deploy, Execute, and Monitor Models

Search you can use wildcard metacharacters

Name: Status: Target:

Enabled:

Rules Sets

#	Name	Revision	Status	Target	Type	Enabled	Tools
1	PDF-WS2AI-PUG	1	ENGINEERING	MLIE Server	MLIE Server	✓	
2	PDF-WS1-PUG	1	ENGINEERING	MLIE Server	MLIE Server	✓	

Showing 1 to 2 of 2 entries

PDF-WS2AI-PUG

Rules History Scope

Search:

Rule Order	Name	Type	Enabled
1	DFF-WS2	FFP	T
2	Trigger Studio AI	FTAI	T

Showing 1 to 2 of 2 entries

Revisions

Revision	Creation	Status	Enabled	Comments	Tools
1	engineer at 17-NOV-2025 11:10:10	ENGINEERING	✓		

Set up rules for
model deployment
and execution

*Integrated into Exensio
workflows*

Exensio Studio AI - Integration

Train, Deploy, Execute, and Monitor Models

Search you can use wildcard metacharacters

Name: Status: Target:

Enabled:

Rules Sets

#	Name	Revision	Status	Target	Type	Enabled	Tools
1	PDF-WS2AI-PUG	1	ENGINEERING	MLIE Server	MLIE Server	✓	
2	PDF-WS1-PUG	1	ENGINEERING	MLIE Server	MLIE Server	✓	

Showing 1 to 2 of 2 entries 1 row selected

Confirm?

Move this rule to Production?

Revisions

Revision

Set up rules for DFF
and Model Triggering

*Integrated into Exensio
workflows*

Exensio Studio AI - Integration

Train, Deploy, Execute, and Monitor Models

Add Data Table from Manufacturing Analytics database - Model Monitor - PUG@EXNDB

Standard

Select Meta Type

31 - MLIE Device Master Table

Raw Level

Programs

PUGDEMO_DATA

Parameters

name	unit	num	count
PUGDEMO_DATA_PREDICT...		25929432	1
WS1_33_SCAN_TDF_VMINS...		33	1
WS1_36_SCAN_TDF_VMINS...		36	1
WS1_57_MBIST_SERDES50...		57	1
WS1_6_IDDQ_SERDES25_B		6	1
WS2_13_SCAN_TDF_VMINS...		13	1
WS2_18_IDDQ_USB_A		18	1
WS2_5_IDDQ_SERDES25_A		5	1

Conditions

Advanced Selection

Meta Filters

Name

Count

Values

0

1

Use Source Lot

Lots

Name	Count	Values
0.S		
1.S		
10.S		
100.S		
101.S		
102.S		
103.S		
104.S		
105.S		
106.S		
107.S		
108.S		
109.S		
11.S		

Wafers

name	num
0_0	0
0_1	1
0_10	10
0_11	11
0_12	12
0_13	13
0_14	14
0_15	15
0_16	16
0_17	17
0_18	18
0_19	19
0_2	2

Statistics

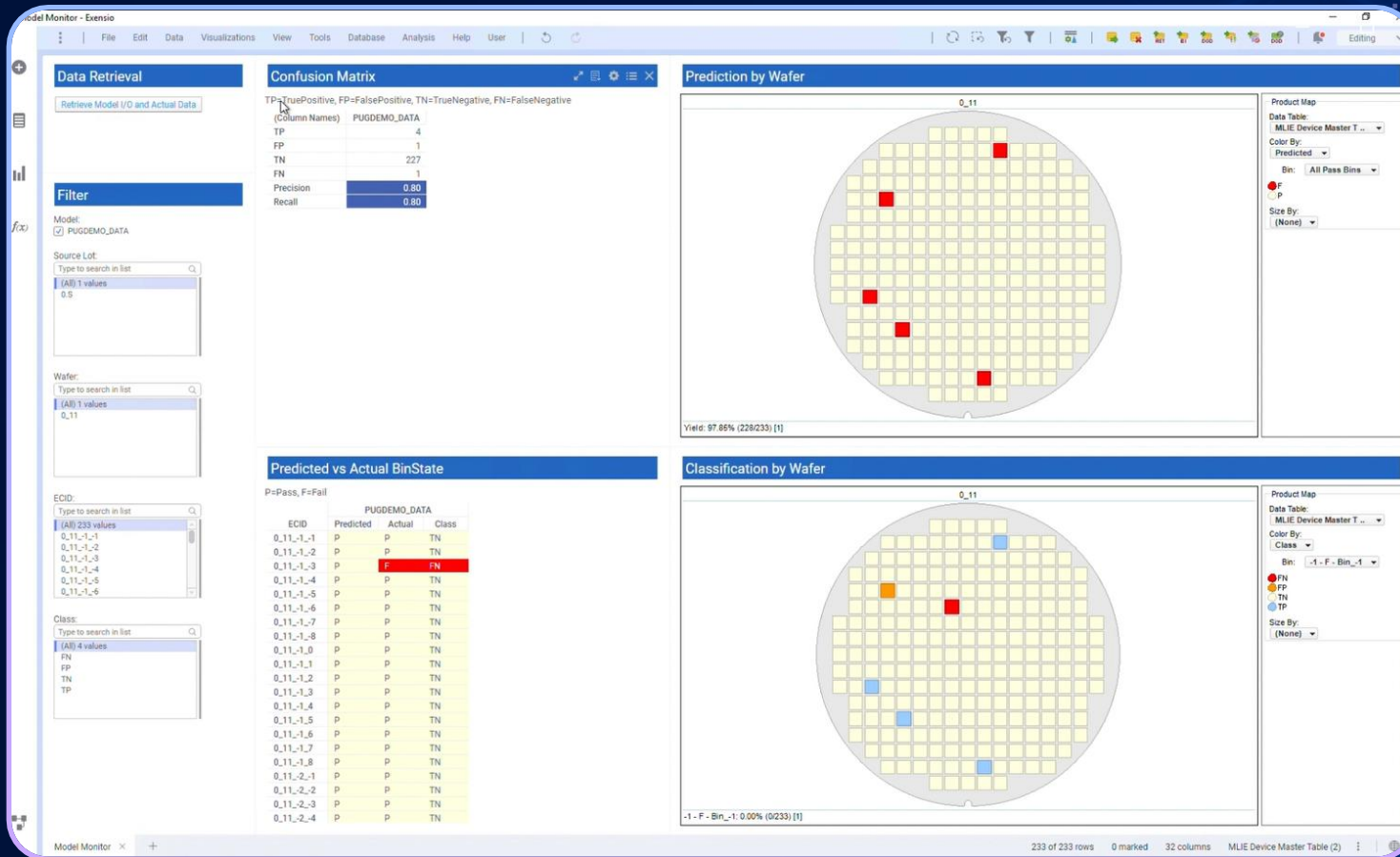
Statistics
avg
cnt
cpk-outlier
cpk-prod
cpk-spec
cpk-wharf
max
min
q1
q2
q3
std

Data staging for model execution and capturing predictions

Integrated into Exensio workflows

Exensio Studio AI - Integration

Train, Deploy, Execute, and Monitor Models



Monitoring template
comparing predicted
vs actual values

*Integrated into Exensio
workflows*

PDF/SOLUTIONS®



Demo



Thank You

PDF/SOLUTIONS®

www.pdf.com



INSTAGRAM
@pdfs.Inc



TWITTER
@pdf_solutions



FACEBOOK
pdfsolutionsinc



LINKEDIN
@pdf-solutions



WECHAT
@pdfs_cn



YOUTUBE
@pdf_solutions