

mid Moulding
Innovation
Day 2026

Automation, Optimization, Intelligence.

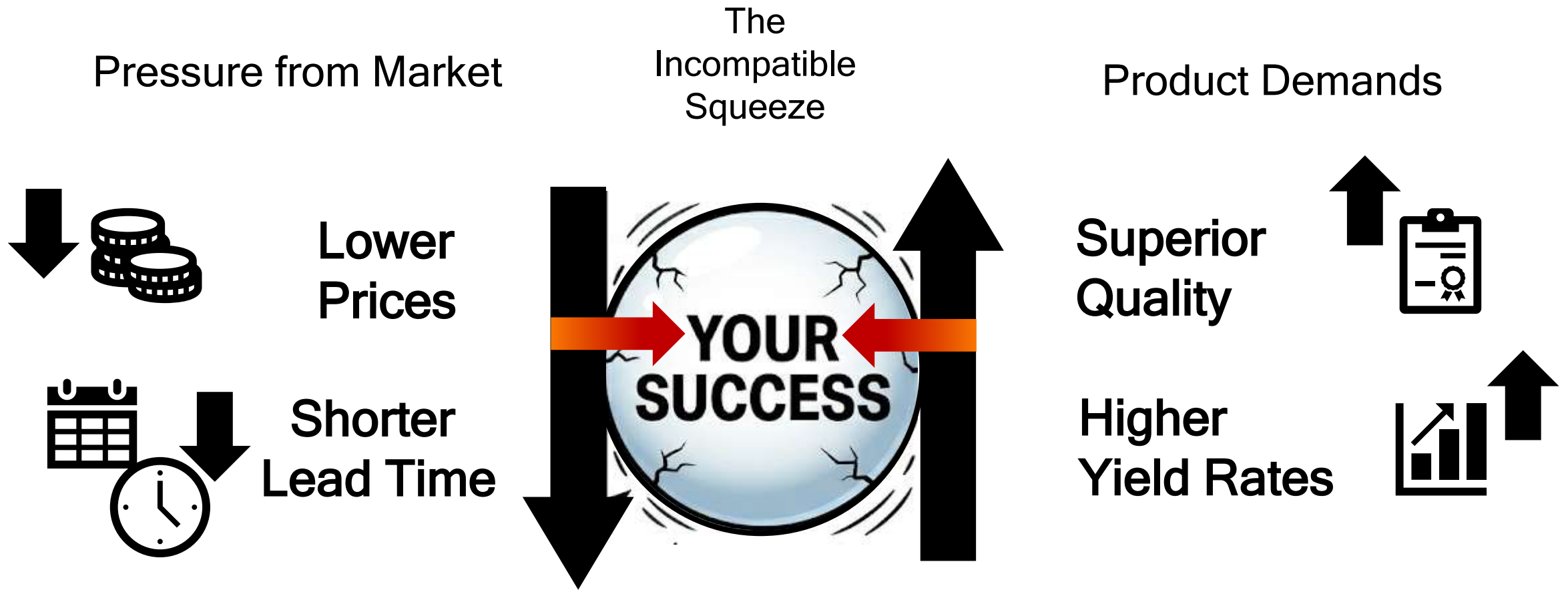
Moldex3D EMEA
Michelle Tung


Moldex3D

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- 「 This presentation was prepared with the assistance of Google NotebookLM, Gemini 」

Challenges: Incompatible Squeeze



A large iceberg floats in a clear blue ocean under a bright blue sky with scattered white clouds. The visible tip of the iceberg is small and jagged, while the much larger, submerged portion is visible below the water line. The text 'Underlying Cause' is centered on the submerged part of the iceberg.

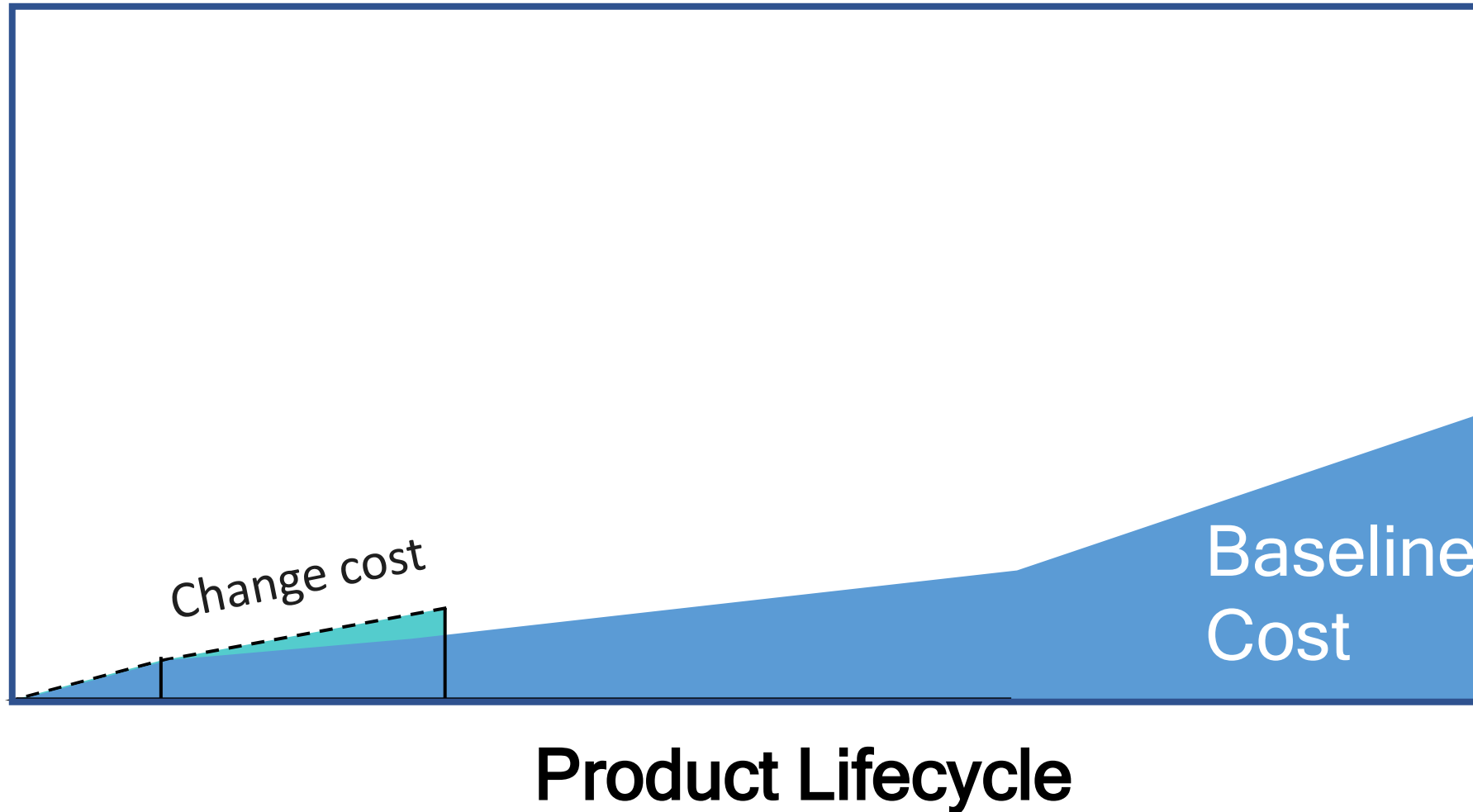
Underlying Cause

Development Costs

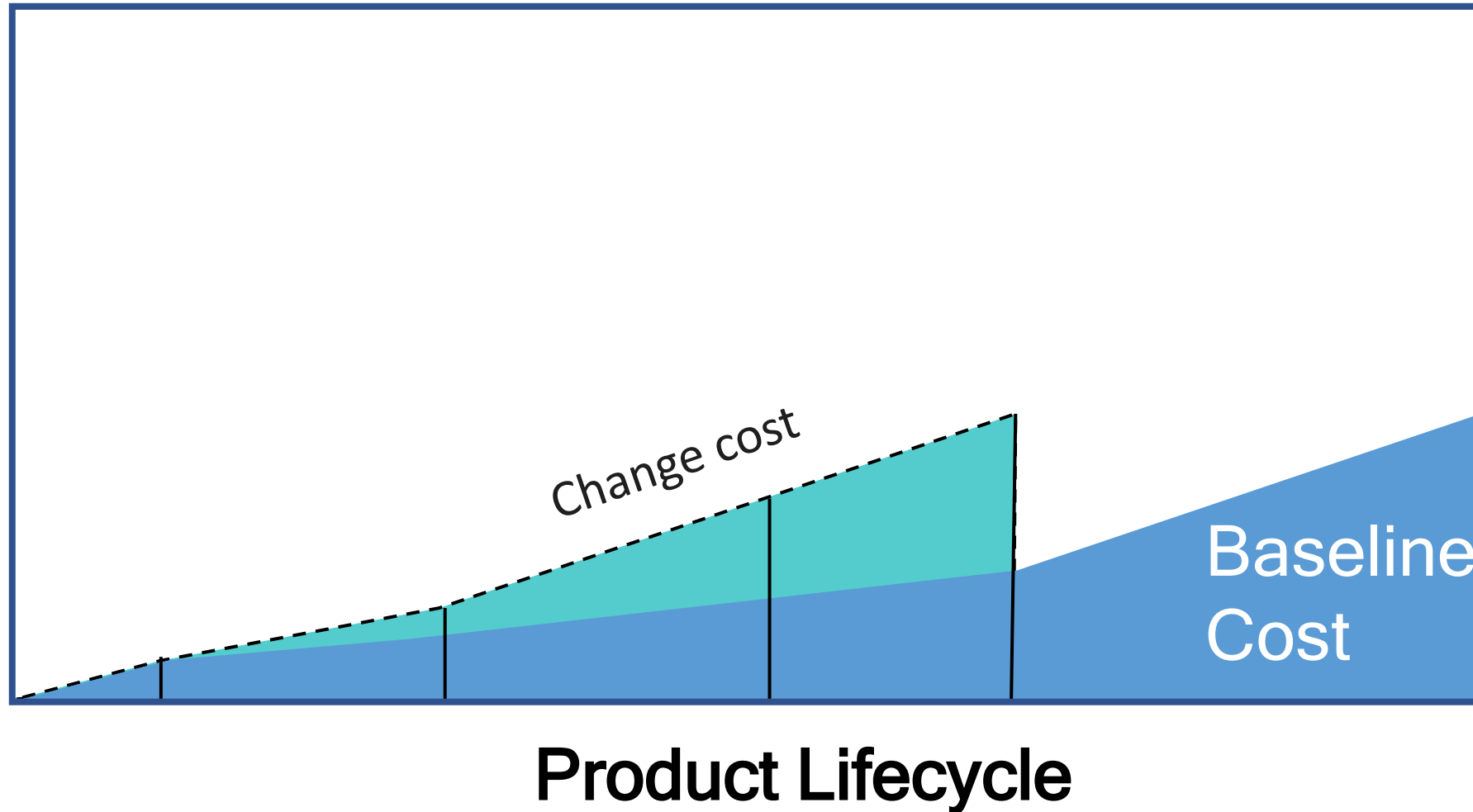


Product Lifecycle

Development Costs

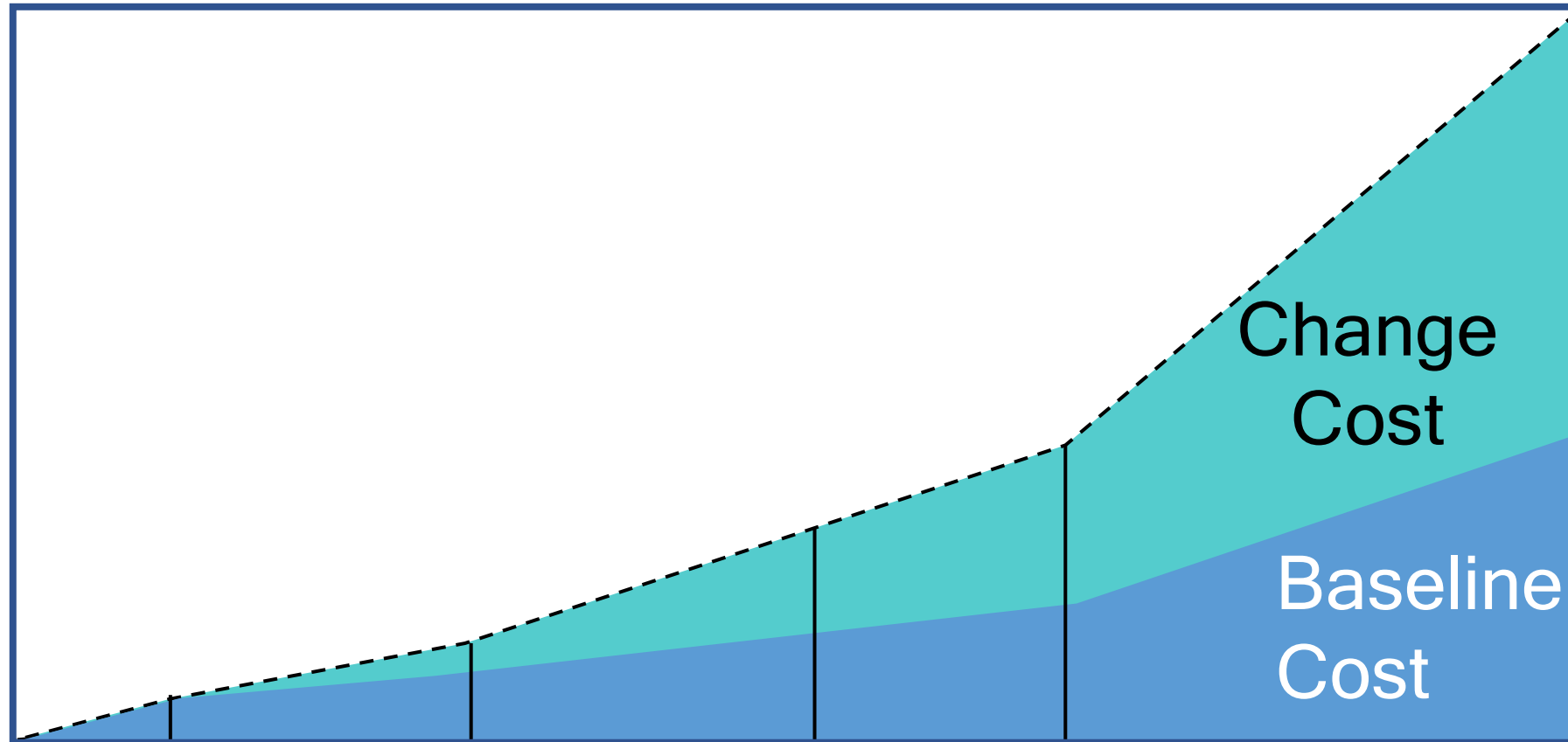


Development Costs



Development Costs

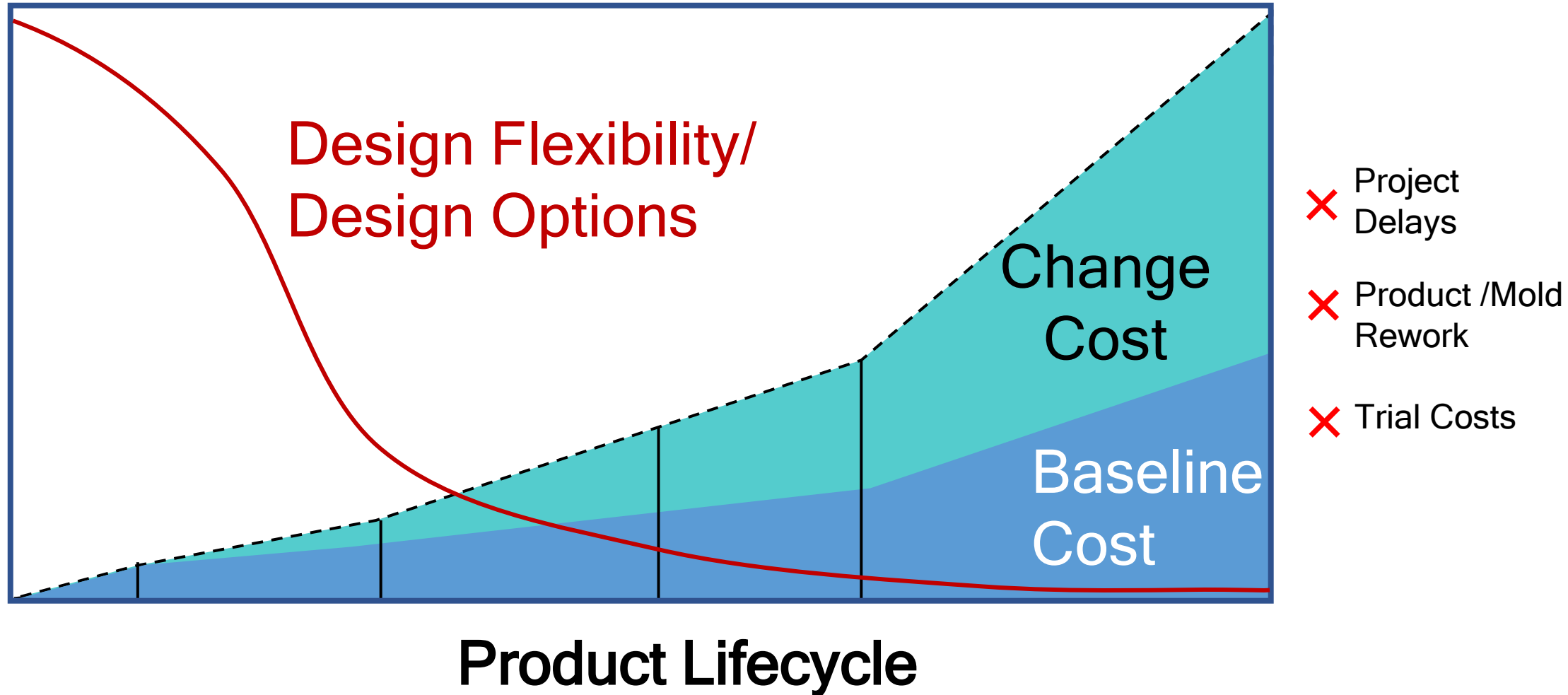
Validate early, save more



Product Lifecycle

Development Costs

Validate early, save more



“Implementing **Moldex3D** at the Earliest Stage of Development”

Don't just check one design—explore them all.

Moldex3D Solution: AOI

Automation:

- Scaling Efficiency
- Eliminate **manual** operations

Optimization:

- Maximizing Quality & Performance
- Replace trial-and-error with systematic exploration

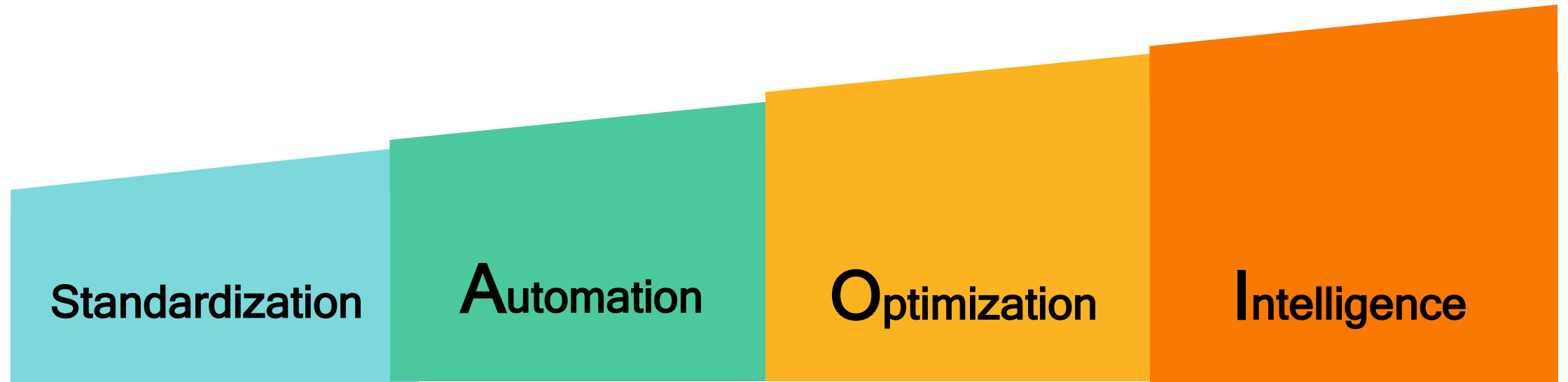
Intelligence:

- Capture intelligence for every new design and product development
- Turning your Enterprise Knowledge into digital Moat



Moldex3D Solutions

The Path to Digital Transformation:





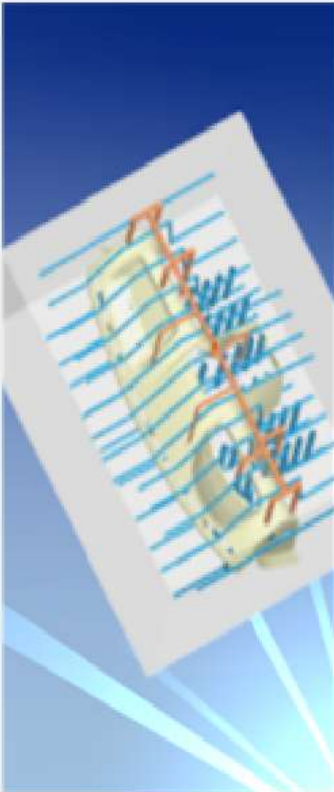
Standardization

The Essential Prerequisite for Automation & Global Collaboration
Every Simulation Follows ONE Standard for Consistent Quality

CAE Settings

Moldex3D Process Wizard (View Only)

Project Settings | **Filling/Packing** | Cooling | Summary



Filling setting

Filling time : 0.47 sec

Flow rate profile (1)...

Injection pressure profile (1)...

VP switch-over

By volume(%) filled as 98 %

Packing setting

Packing time : 5 sec

Packing pressure refers to VP switch pressure

Packing pressure profile (1)...

Melt Temperature	225	oC
Mold Temperature	60	oC

Advanced Setting...

Capture Settings Help Close

Computation Parameter

Flow/Pack | Cool | Warp | Stress | VE/Optics | **General**

Solver : Enhanced

Standard analysis
 Fast analysis
 Customize

Viscous heating
 Non-isothermal
 Stabilized calculation
 Non-newtonian flow
 Compressible flow

Gravitational force : cm/sec²
 Example : (0, 0, -980) for z-gravity

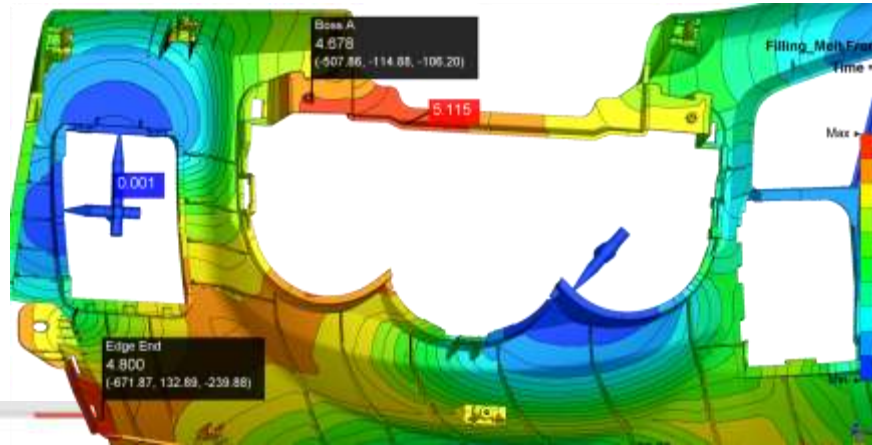
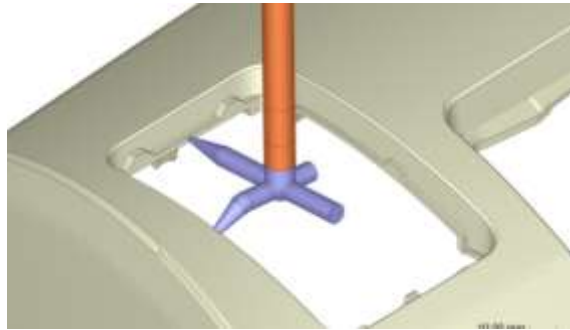
X: 0 Y: 0 Z: 0

Multiple time steps output setting :
 Setting Method: Filling Time (sec)
 Filling : 10
 Packing : 3
 Estimate required cooling time
 Predict gate freeze time criterion:
 Run fiber orientation analysis
 Particle Tracer
 Particle tracking from : Melt Inlet...

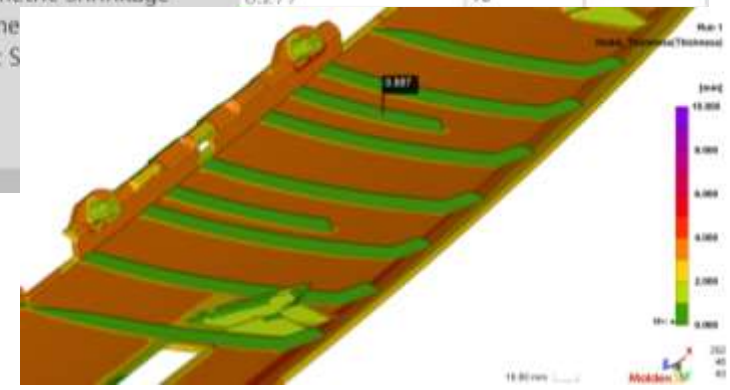
Advanced... Default

OK Cancel

CAE Result Interpretation



A	B	C	D
Moldex3D CAE Report			
Project	Gear - Run01	Date	
Remark		Run ID	
Model			
Model	Gear_Part.mfe		
Part Dimension	46.72x46.32x15.62	mm x mm x mm	
Part Volume	13.9616	cc	
Cold Runner Volume	0.136287	cc	
DFM - CAE Validation			
Avg. Model Thickness	5.022	mm	FAIL
Min. Model Thickness	3.403	mm	PASS
Max. Pressure	33.994	MPa	PASS
Max. Clamping Force	3.852	ton	PASS
Max. Pressure	31.512	MPa	
Min. Pressure	2.305	MPa	
Pressure Range Diff. (Max-Min)	29.21	MPa	PASS
Max. Sink Mark	0.104	mm	FAIL
Max. Temperature Diff.		°C	PASS
Max. Volumetric Shrinkage	8.277	%	
Min. Volume			
Volumetric S			



The Risks of Non-Standardization

"Without a clear guide, everyone ends up doing things differently, which inevitably leads to inconsistent quality and conflicting conclusions."



Different Approaches



Inconsistent Quality

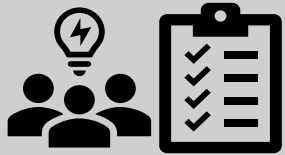


Conflicting Conclusions

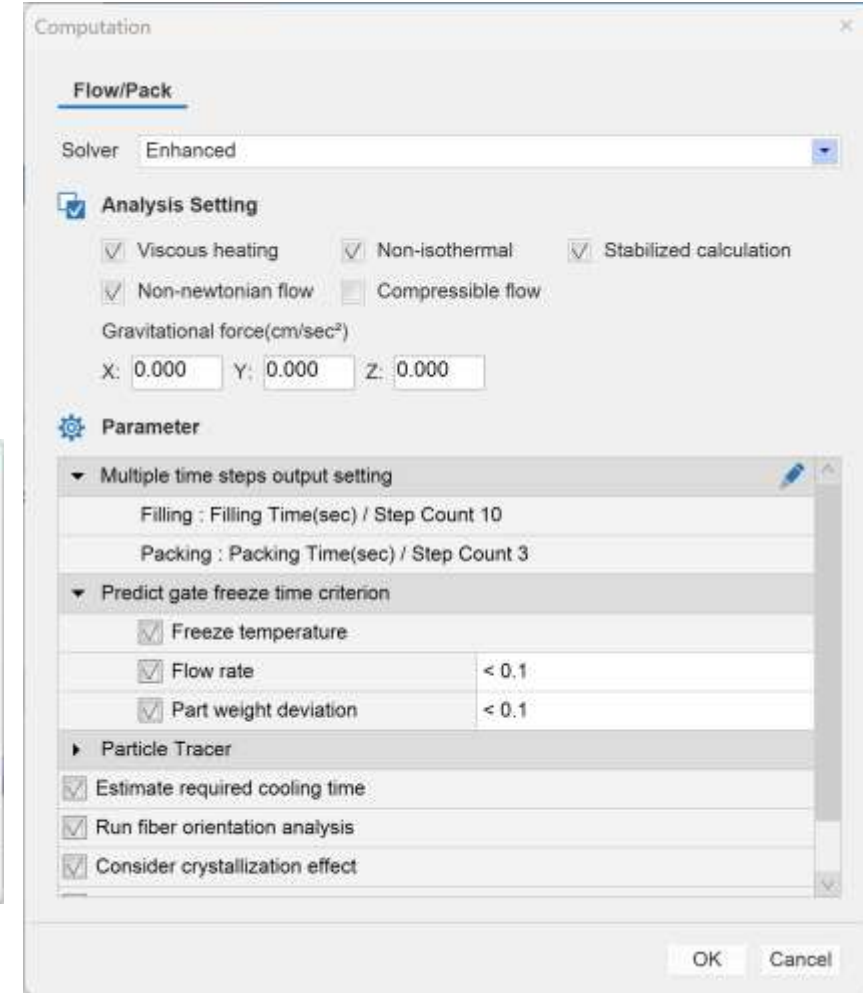
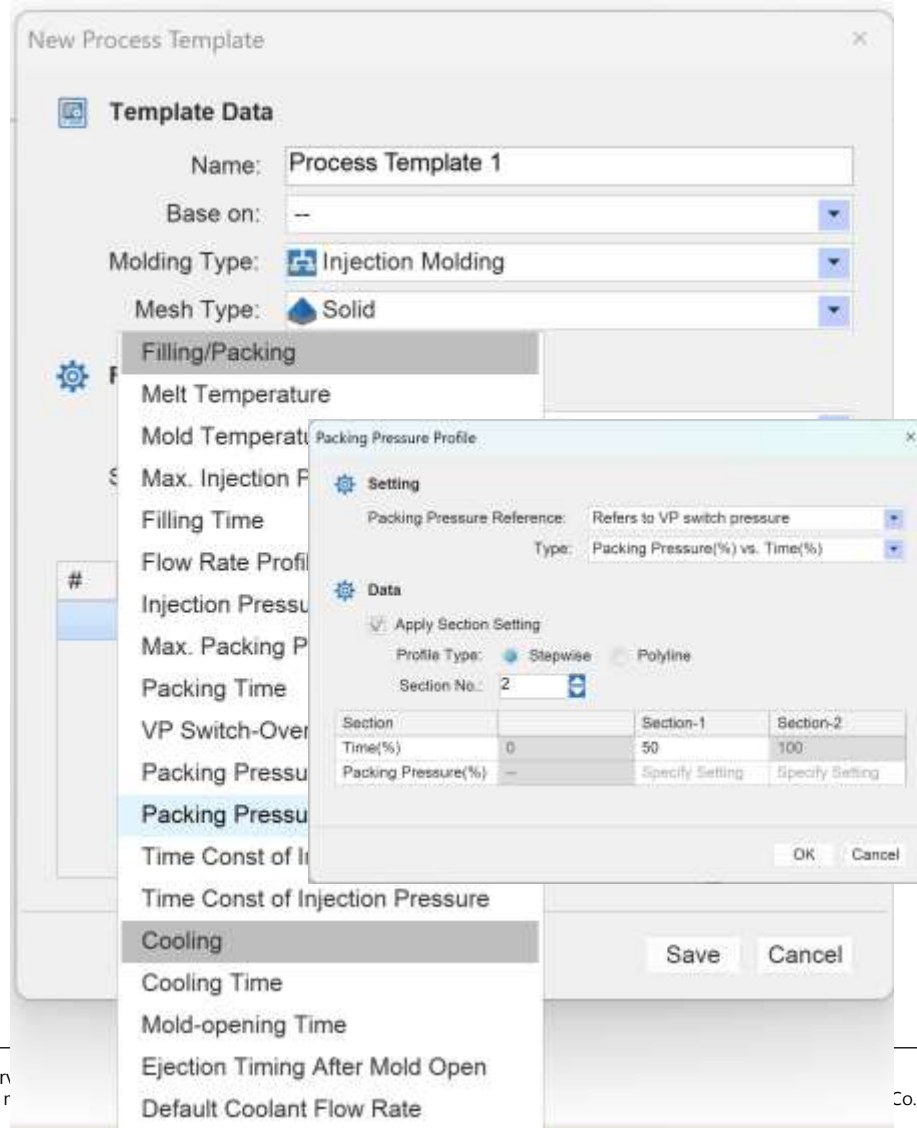


Standardization Execution Framework

Formalize Standards



Convene internal experts to formalize CAE workflows and analysis criteria





Standardization Execution Framework

- F Filling, Time = 0.260 sec (EOF)
 - Melt Front Time
 - X Weld Line Meeting Angle
 - X Weld Line Temperature
 - X Pressure
- XY XY Curve
 - ! Sprue Pressure
 - ✓ Volume Fraction
- P Packing, Time = 3.929 sec (EOP)
 - ✓ Pressure
 - Temperature
 - Volumetric Shrinkage
 - X Sink Mark Displacement
- XY XY Curve
 - ✓ Volume Fraction
- W Warpage
 - Displacement
 - X Total Displacement

Ensure Consistency

Apply these standards to ensure consistent review and verification of CAE results

Run Summary

Simulation Validation

Table Format

Number of Runs: 3

Sync Result Criteria:

Wrap Text:

Show Column: Rule Value

#	1	2	3
Run	Run 4	Run 5	Run 6
Result Criteria	Result Criteria_Demo	Result Criteria_Demo	Result Criteria_Demo
Remark	DOE 1 #1	DOE 1 #2	DOE 1 #3
Note			
Filling			
Melt Front Time			
Weld Line Meeting Angle	X	X	X
Weld Line Temperature	X	X	X
Pressure	X	X	X
XY_Sprue Pressure	!	!	!
XY_Volume Fraction	✓	✓	✓
Packing			
Pressure	X	✓	✓
Temperature			
Volumetric Shrinkage			
Sink Mark Displacement	X	X	X
XY_Volume Fraction	✓	✓	✓
Warpage			
Total Displacement	✓	X	X

Update Close



Standardization Execution Framework

Formalize Standards



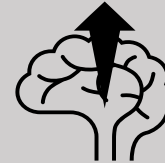
Convene internal experts to formalize CAE workflows and analysis criteria

Ensure Consistency



Apply these standards to ensure consistent review and verification of CAE results

Empower Engineers



Empower every engineer to provide expert-level insights and solutions



Standardization Execution Framework

Formalize Standards



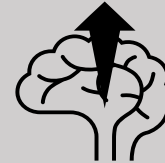
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Ensure Consistency



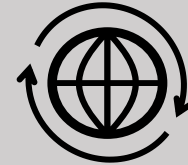
Apply these standards to ensure consistent review and verification of CAE results

Empower Engineers



Empower every engineer to provide expert-level insights and solutions

Align Global Partners



Ensure all global suppliers strictly follow the same execution process



Standardization Execution Framework

Formalize Standards



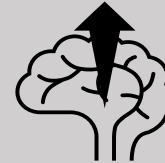
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Ensure Consistency



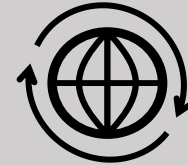
Apply these standards to ensure consistent review and verification of CAE results

Empower Engineers



Empower every engineer to provide expert-level insights and solutions

Align Global Partners



Ensure all global suppliers strictly follow the same execution playbook

- Achieving Global Quality Consistency: The Only Path Toward Automation -



Automation

Accelerates Development Cycles





Automation Values

Consistency

Deliver consistent results via pre-defined rules and eliminate human errors.

A large black circle containing a blue diamond icon at the top and the text "Automation Values" in white, bold font below it.

**Automation
Values**

Consistency

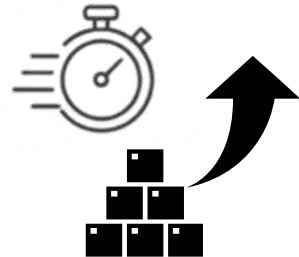
Deliver consistent results via pre-defined rules and eliminate human errors.



Automation Values

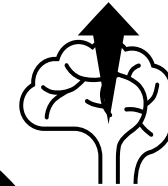
Scalability

Speed up: Drastically shorten cycle times
Scale up: Handle 100 tasks as easily as 1



Consistency

Deliver consistent results via pre-defined rules and eliminate human errors.



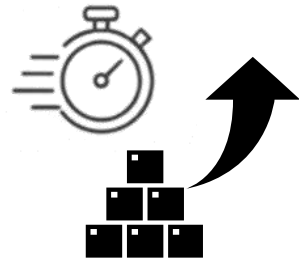
Data-Driven Insight

Automatically collect data as Big Data to serve as the foundation for intelligent insights.

Automation Values

Scalability

Speed up: Drastically shorten cycle times
Scale up: Handle 100 tasks as easily as 1



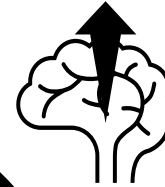
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Automatically collect data as Big Data to serve as the foundation for intelligent insights.

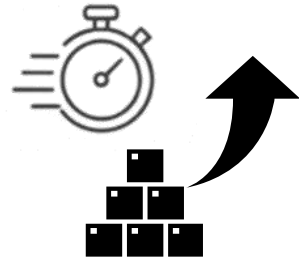


Automation Values



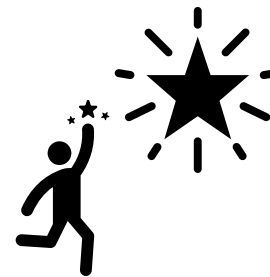
Scalability

Speed up: Drastically shorten cycle times
Scale up: Handle 100 tasks as easily as 1



Empowerment

Elevate talent from tedious tasks to high-value problem solving



Click-and-Wait Cycle and Repetitive Tasks

Import file

Generate mesh ...

Check and export
mesh file

Loading result....

Update data...

Upload to iSLM....

Sync the project...



Add New Simulation

Add Gate

Add Runner

Add Cooling Channel

Snap Result image

Compare runs

Manual reporting

Click-and-Wait Cycle and Repetitive Tasks

Import file

Generate mesh ...

Check and export
mesh file

Loading result....

Update data...

Upload to iSLM....

Sync the project...



Add New Simulation

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Snap Result image

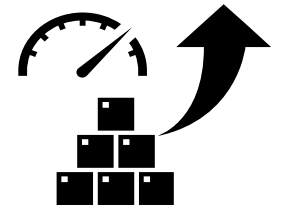
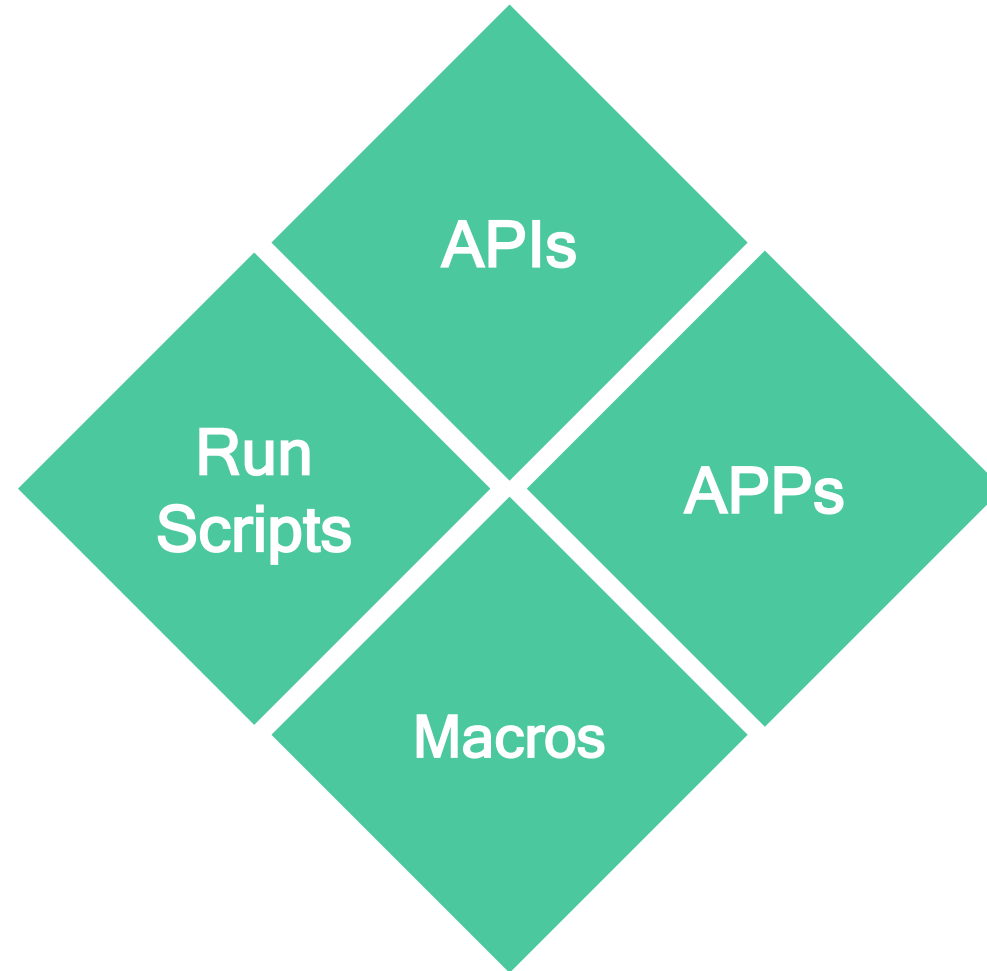
Compare runs

Manual reporting



It's time to embrace automation.

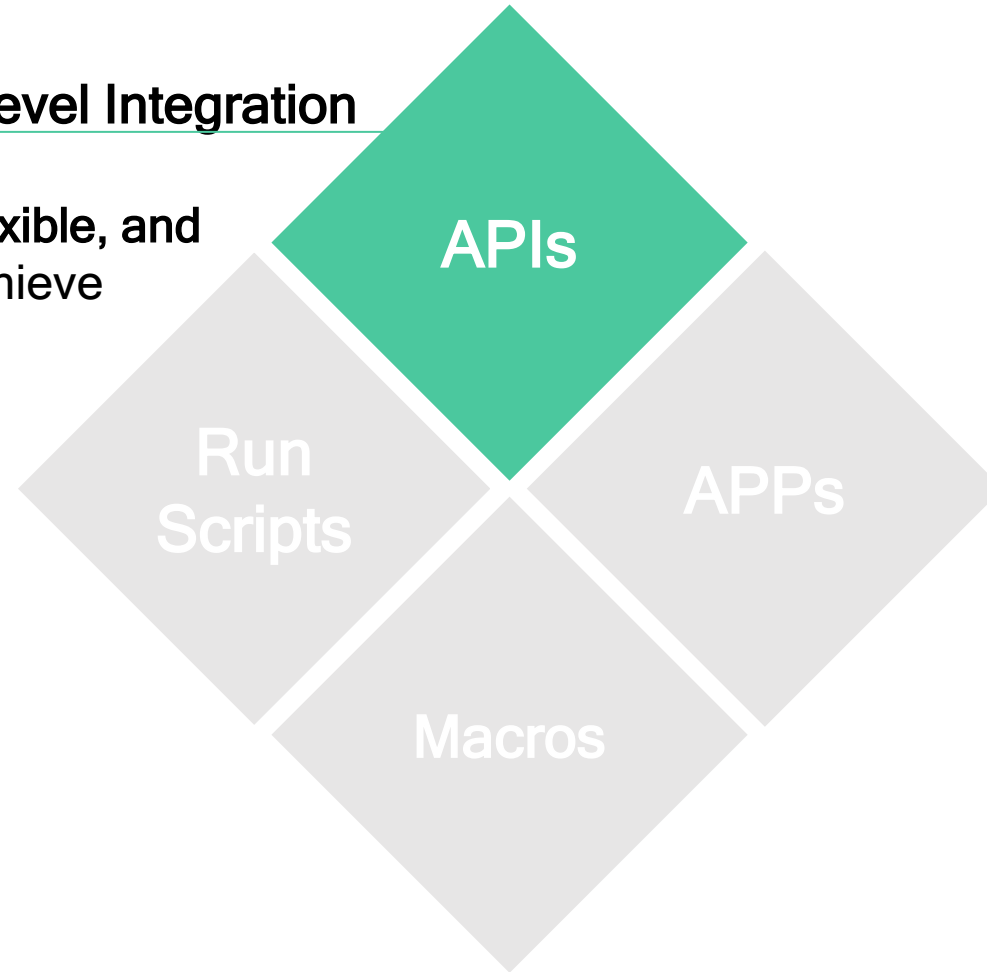
Moldex3D Automation Approaches



Automation Approaches

System-Level Integration

API is the most comprehensive, flexible, and powerful way to achieve automation.



System-Level Integration



Web
PLM
System



Desktop
CAD/ CAE
Software



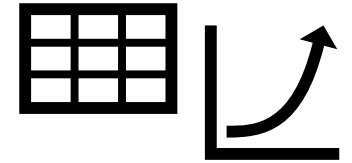
Cloud
Computing



IOT / Digital Twin
Injection Machine
Mold Temperature Controller
3D Scanner



AI



Report
Table,
Plot Figure

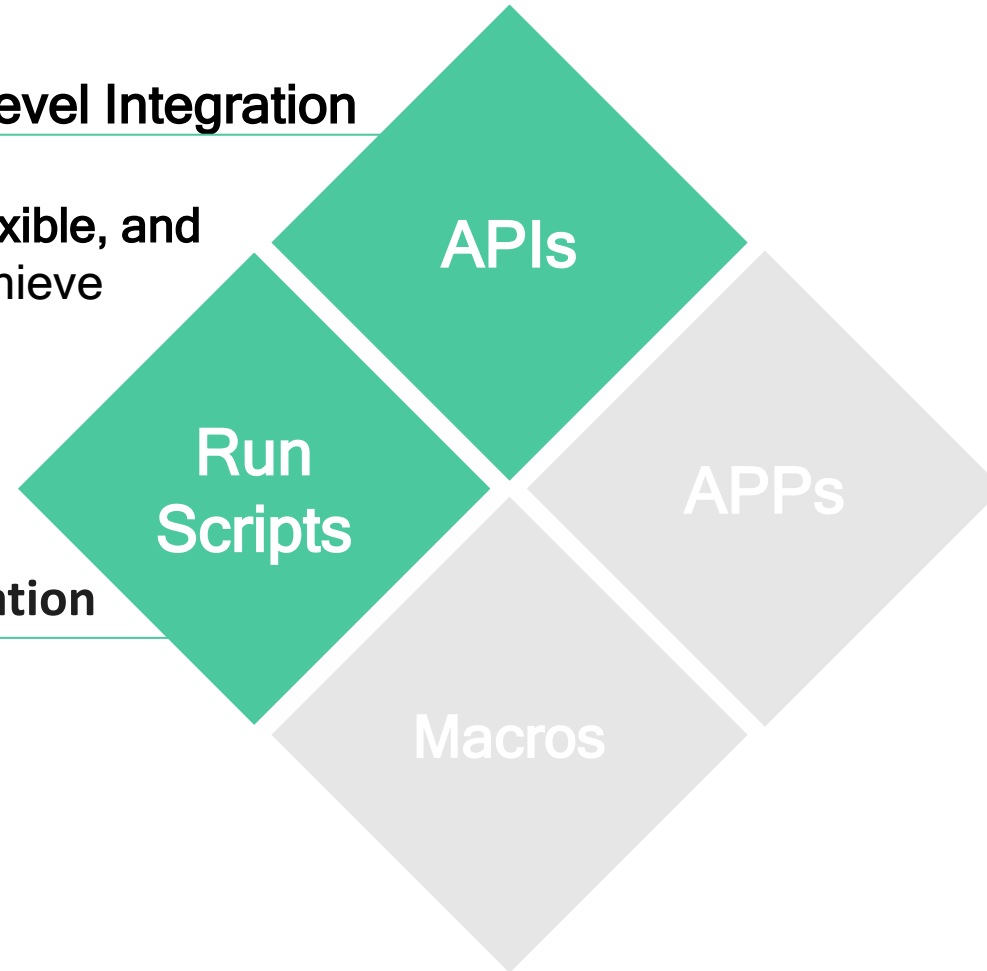


Moldex3D API

Automation Approaches

System-Level Integration

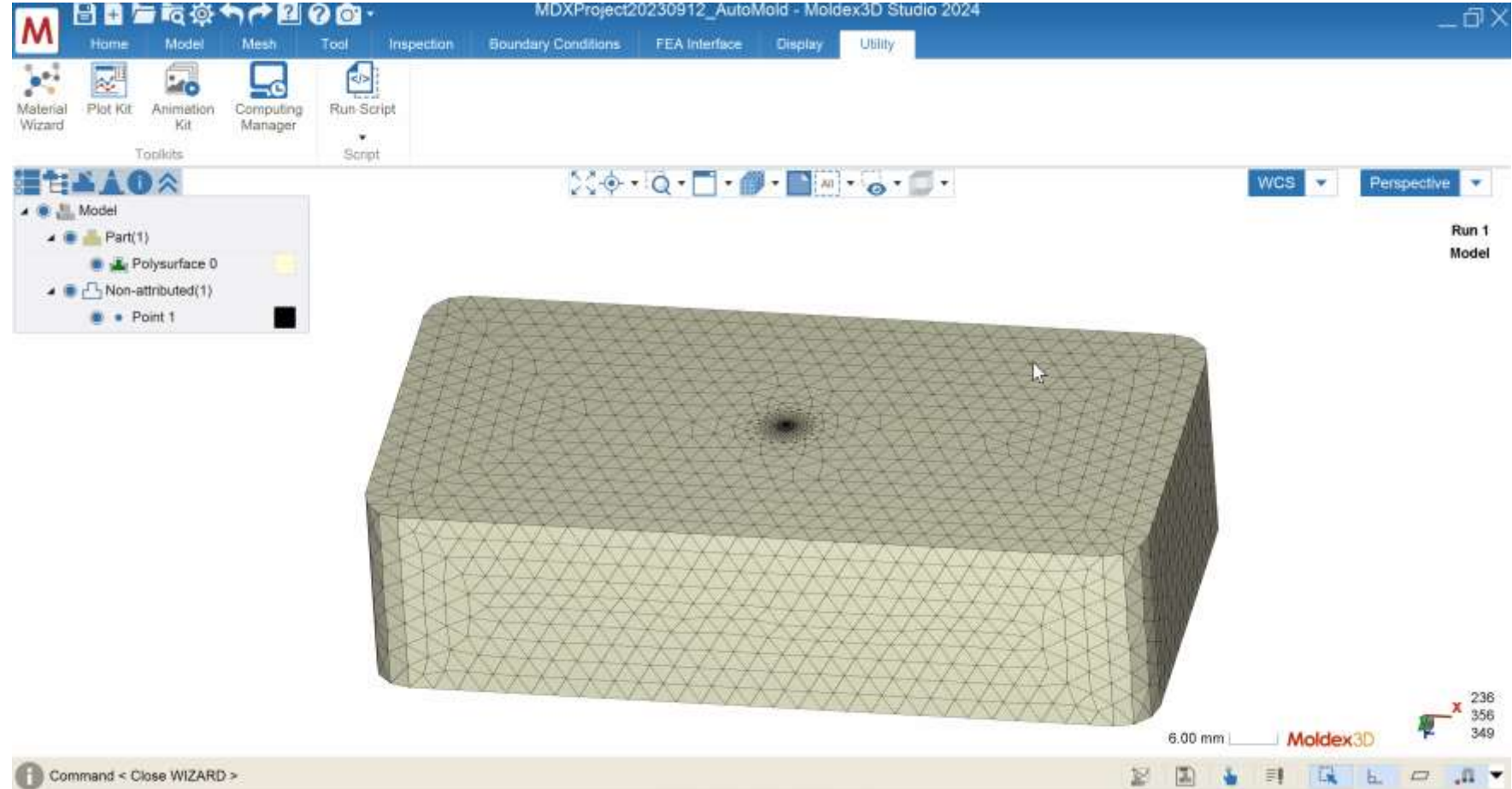
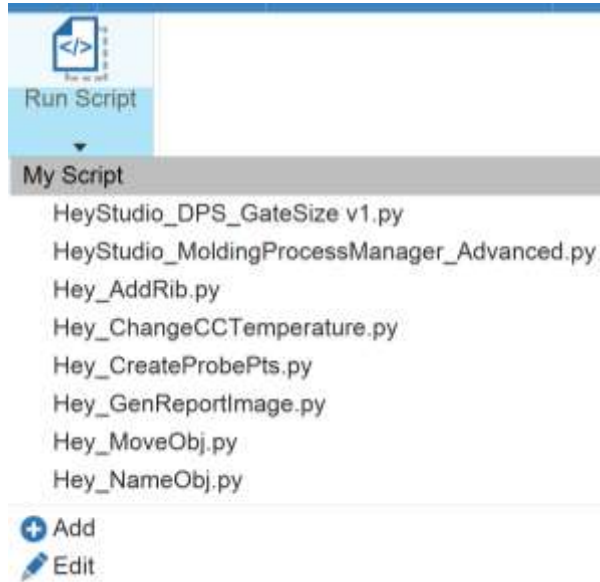
API is the most comprehensive, flexible, and powerful way to achieve automation.



Interactive Workflow Automation

You can watch the process execute tasks step-by-step on the UI and make sure everything is perfect in real-time."

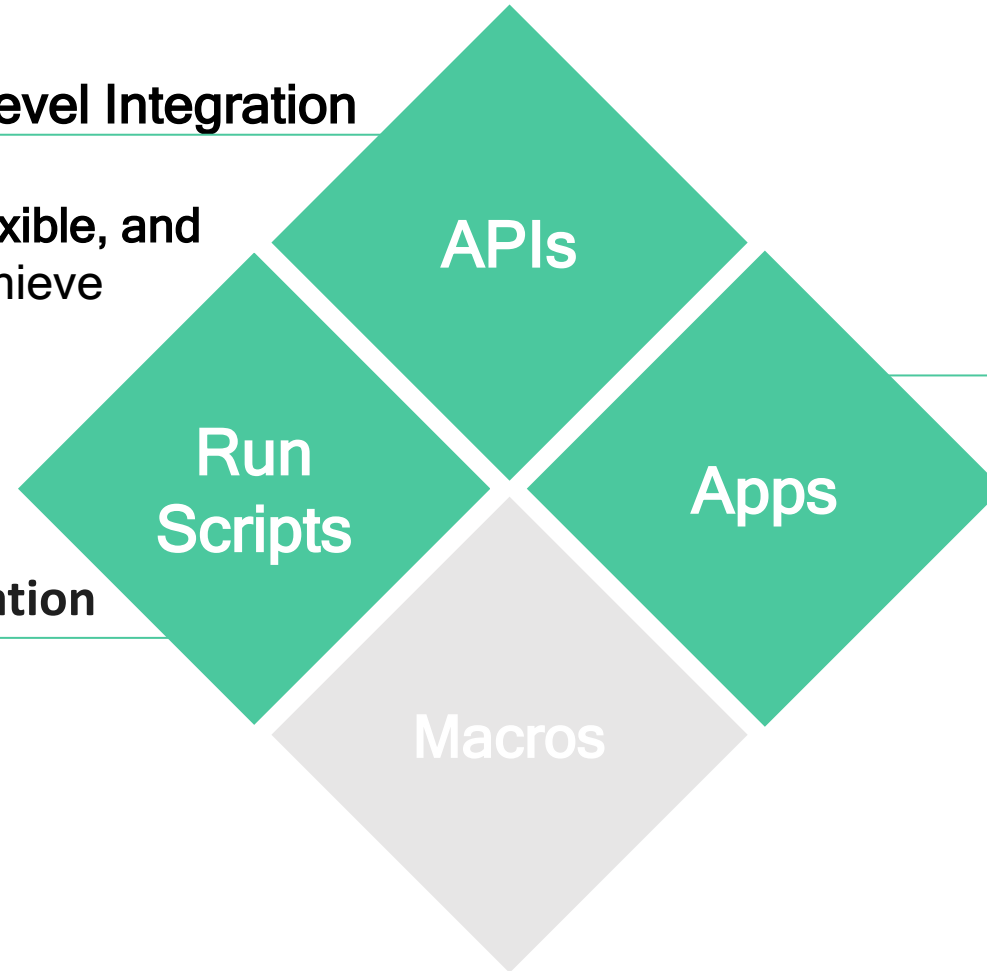
Run Script: Auto Mold



Automation Approaches

System-Level Integration

API is the most comprehensive, flexible, and powerful way to achieve automation.

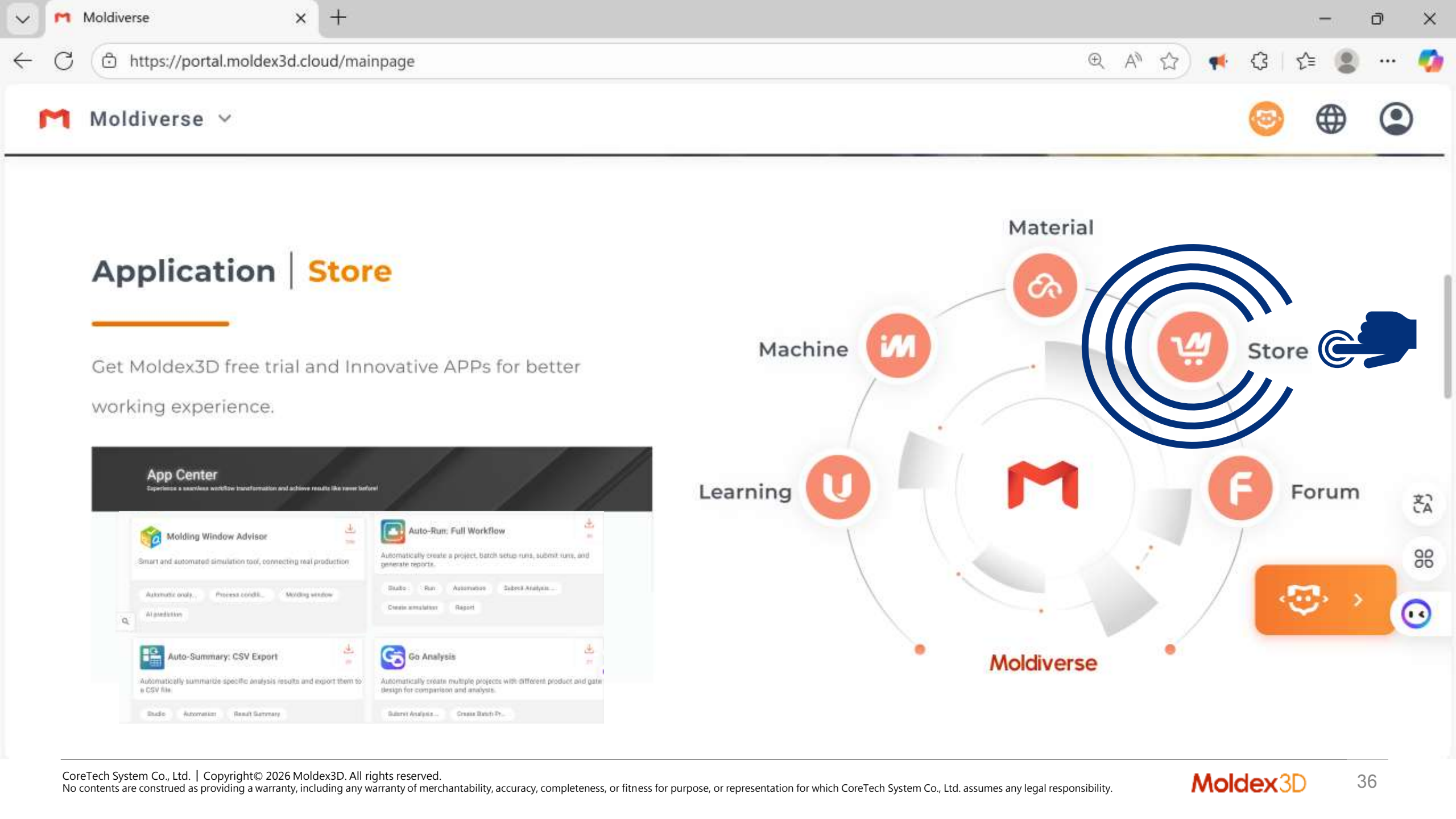


Intuitive User Experience

Download the Ready-to-Use Tools tools from Moldiverse

Interactive Workflow Automation

You can watch the process execute tasks step-by-step on the UI and make sure everything is perfect in real-time."



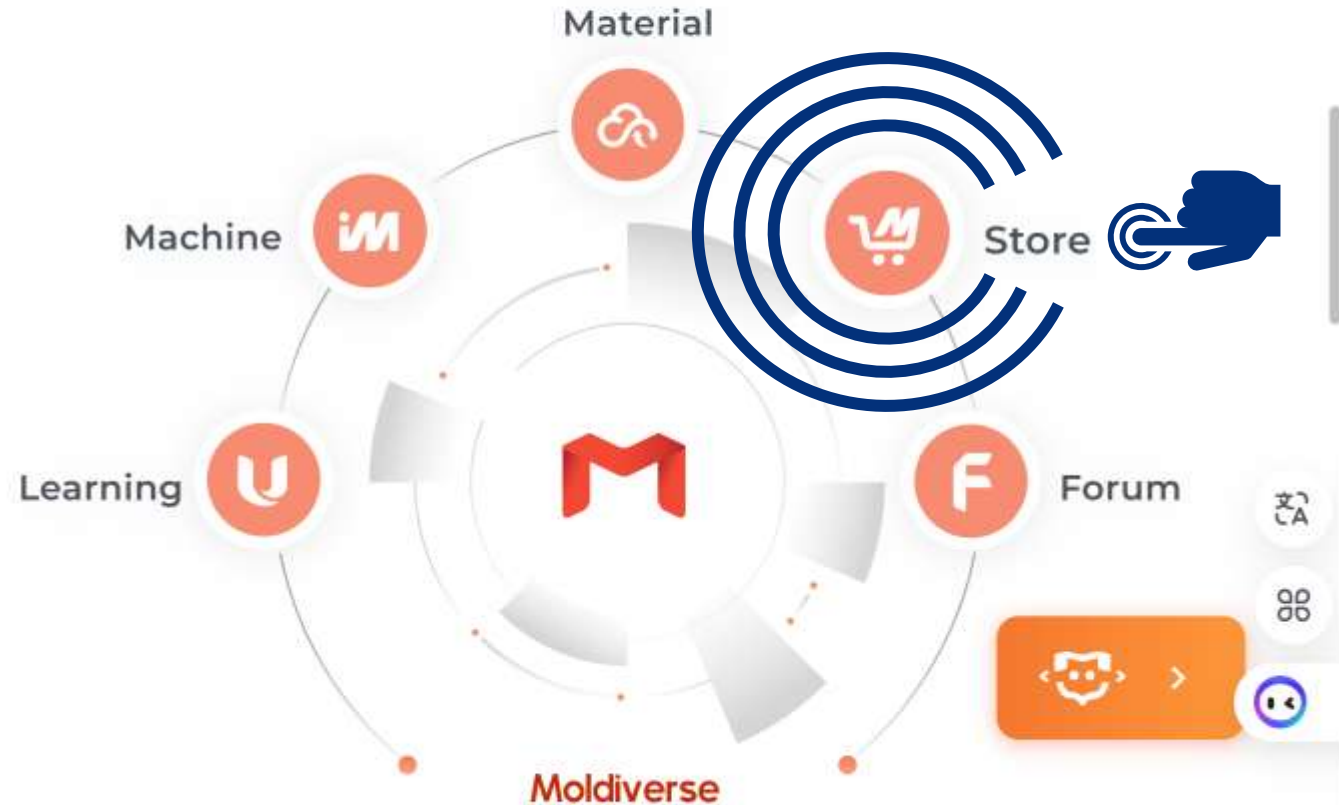
Application | Store

Get Moldex3D free trial and Innovative APPs for better working experience.

App Center

Experience a seamless workflow transformation and achieve results like never before!

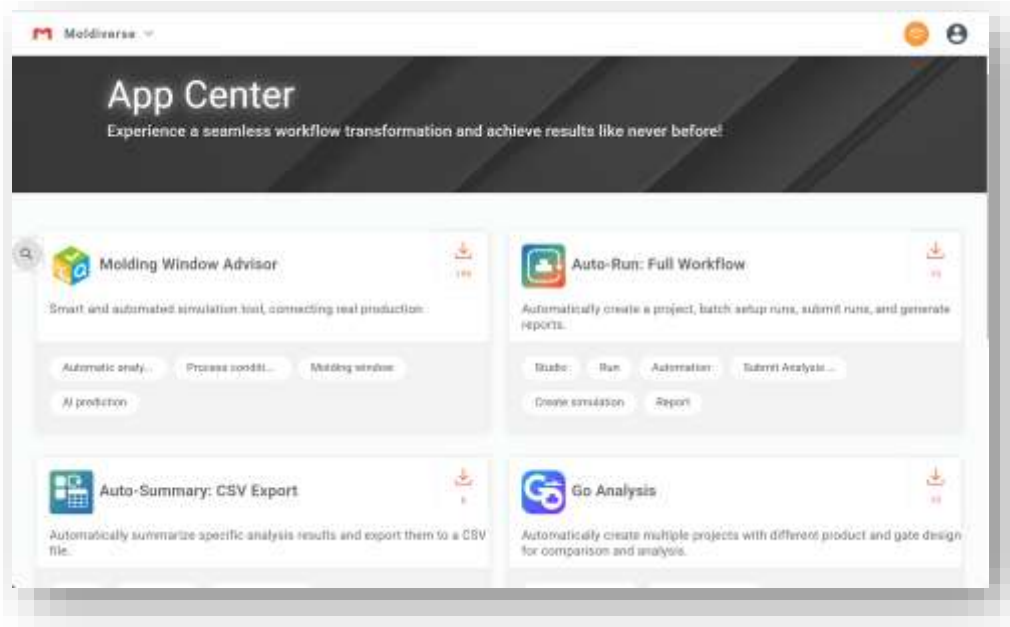
Molding Window Advisor Smart and automated simulation tool, connecting real production Automatic analys... Process condit... Molding window AI prediction	Auto-Run: Full Workflow Automatically create a project, batch setup runs, submit runs, and generate reports. Studio Run Automation Select Analysis... Create simulation Report
Auto-Summary: CSV Export Automatically summarize specific analysis results and export them to a CSV file. Studio Automation Result Summary	Go Analysis Automatically create multiple projects with different product and gate design for comparison and analysis. Submit Analysis... Create Batch Py...



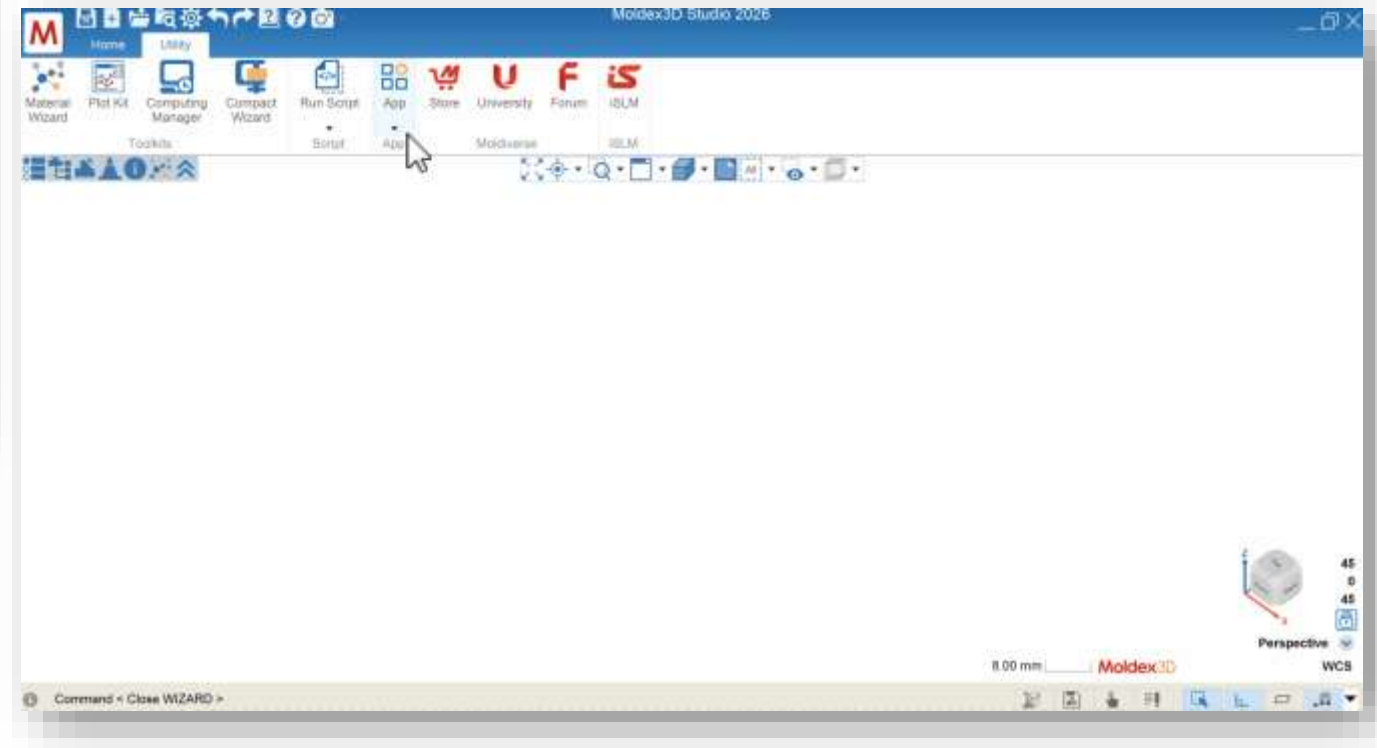
Integrate Your Favorite Apps into Studio



Download Apps from Store



Add Application Shortcuts to Studio



Moldex3D APP: **Go Analysis**



Automatically create multiple projects with different product and gate design for comparison and analysis



Instant Multi-Design Analysis



Flexible Gate Fast-Setup

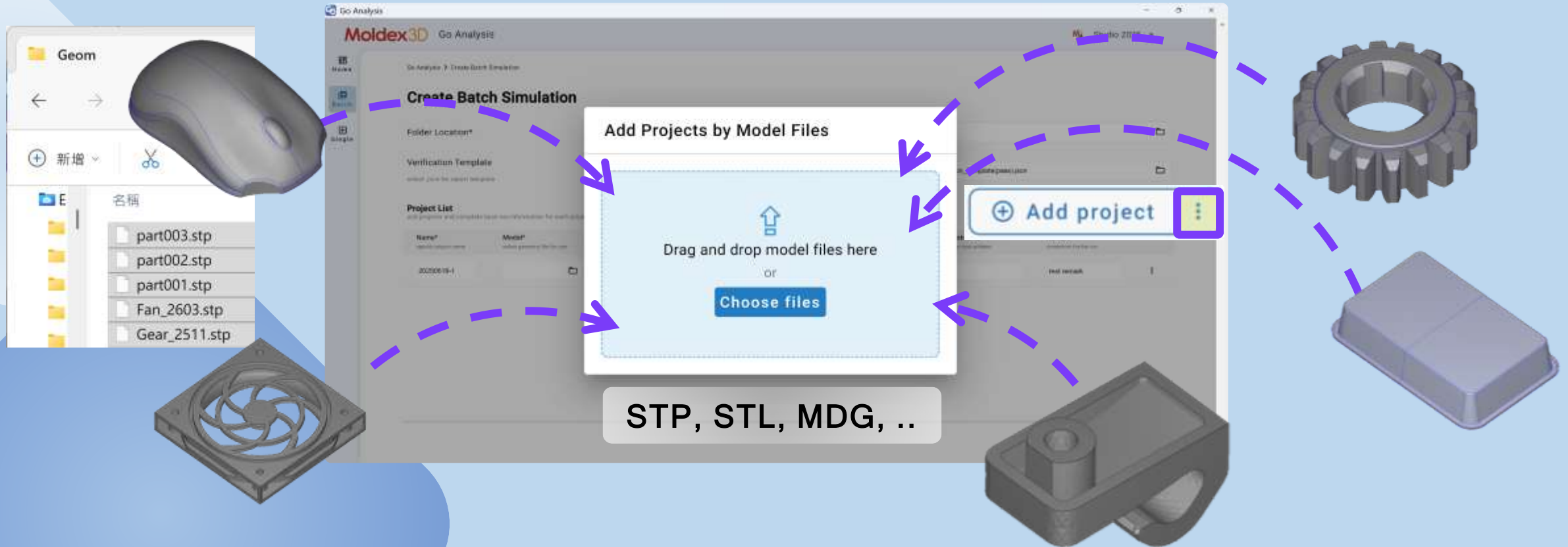


Auto-Report & Comparison

Moldex3D APP: Go Analysis



“Auto-Setup: One-Drag, Multi-Analysis”



Go Analysis: Flexible Gate Setup



1 Input Location

Gate*
enter (X,Y,Z) location

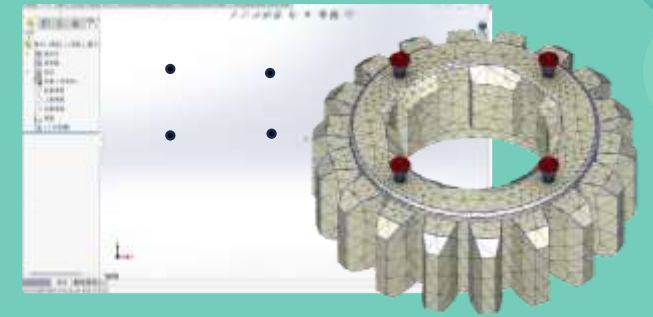
0.5, 2, 3

⋮

2 • CSV

X	Y	Z	Gate Type	Dimension
125.26	-101.01	28.53	pin	{"D":1}
42.41	-102.5	28.53	edge	{"a":1.0,"b":2}
9.13	-102.38	28.53	edge	{"a":1.0,"b":2}

- Gate Points (*.stp, *.iges)



Import

Auto Gate

3

Auto Gate

1 Set Gate Number

Number (1~10)

2 Set Gate Diameter

Diameter(mm)

3 Set Gating Constraints

Gating

Gating

Non-Gating

- Gate face Normal
- Predefined Region



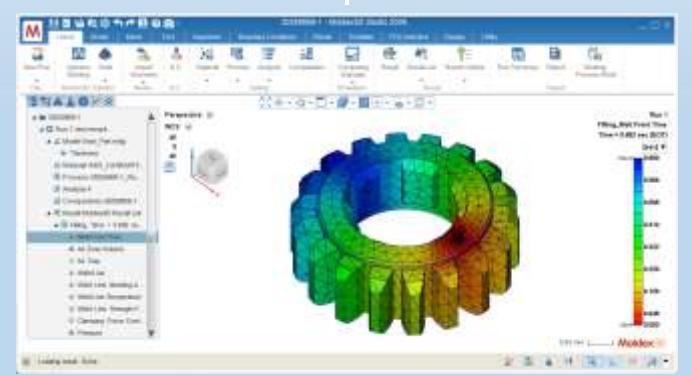
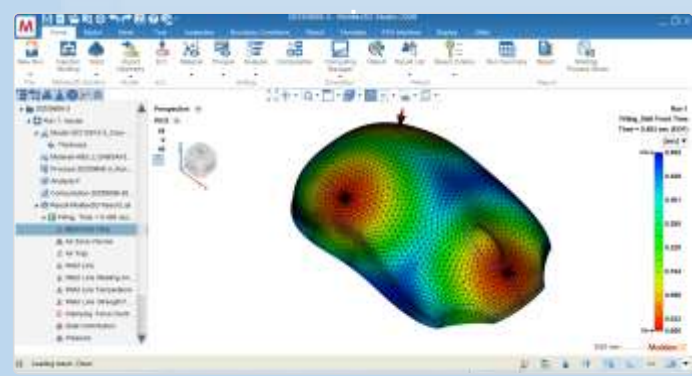
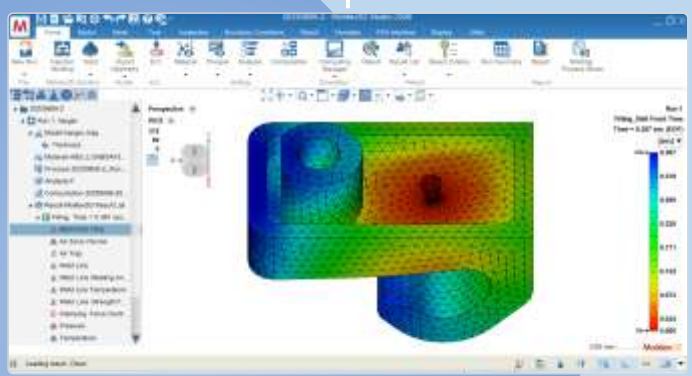
Easy to create multiple projects

few clicks



The screenshot shows the 'Create Batch Simulation' window in Moldex3D Go Analysis. It includes fields for 'Folder Location*' (D:\GoAnalysisProjects_demo) and 'Verification Template' (D:\GoAnalysisProjects\sample_Batch\template\Ver\Scalco_Template(press).json). Below these is a 'Project List' table with columns for Name, Model, Size, Material, Analysis, Hostname, and Batch. Three projects are listed: 20250005-1 (Gear_Part.stp), 20250005-2 (fange.stp), and 20250005-3 (20210513-3_Creo-A.stp). Each project has an 'AUTO GATE' button. An 'Add project' button is at the top right, and a 'Create' button is at the bottom right.

Name*	Model*	Size*	Material*	Analysis	Hostname	Batch
20250005-1	Gear_Part.stp	15.18.0.8.57	ABS_10ABSAP300	F	localhost	gear
20250005-2	fange.stp	AUTO GATE	ABS_10ABSAP300	F	localhost	fange
20250005-3	20210513-3_Creo-A.stp	AUTO GATE	ABS_10ABSAP300	F	localhost	round



Go Analysis: Validation & Report



Go Analysis

Moldex3D Go Analysis

Studio 2025

Go Analysis > Project History

customer-project

Save Open

Project List

All the established projects and basic information for each project

Project	Run	Picture	Model	Gate	Material	Analysis	Validation Status	Report
20250606-2	1		hanger.stp	Number: 1 Diameter: 1 Type: Non-gating Target: 3x	ABS_LGABSAF303.ntr	F	Validation Status: Pass	Report
20250606-3	1		20210513-3_Creep-4P242.stp	Number: 3 Diameter: 1 Type: Gating Target: Model	ABS_LGABSAF303.ntr	F	Validation Status: Fail	Report
20250606-1	1		Gear_Part.stp	(15,18,0,8,57)	ABS_LGABSAF303.ntr	F	Validation Status: Fail	Report

Validation Status

Report

Fail

Fail

Pass

37 38 39

Moldex3D CAE Report

Project Remark	Gear - Run01	Date
Model	Run ID	
Model	Gear_Part.mfe	
Part Dimension	46.72x46.32x15.62	mm x mm x mm
Part Volume	13.9616	cc
Cold Runner Volume	0.136287	cc
DFM - CAE Validation		
Avg. Model Thickness	5.022	mm Fail
Min. Model Thickness	3.403	mm PASS
Max. Pressure	33.994	MPa PASS
Max. Clamping Force	3.852	ton PASS
Max. Pressure	31.512	MPa
Min. Pressure	2.305	MPa
Pressure Range Diff. (Max-Min)	29.21	MPa PASS
Max. Sink Mark	0.104	mm Fail
Mold Temperature Diff.		°C PASS
Max. Volumetric Shrinkage	8.277	%
Min. Volumetric Shrinkage	0.659	%
Volumetric Shrinkage (Max -Min)	7.62	% Fail

Thickness

Automation Approaches

System-Level Integration

API is the most comprehensive, flexible, and powerful way to achieve automation.

APIs

Intuitive User Experience

Download the Ready-to-Use Tools from Moldiverse

APPs

Run
Scripts

Interactive Workflow Automation

You can watch the process execute tasks step-by-step on the UI and make sure everything is perfect in real-time."

Macros

2026

Rapid Process Recording

Record repetitive actions and automate them via instant playback.

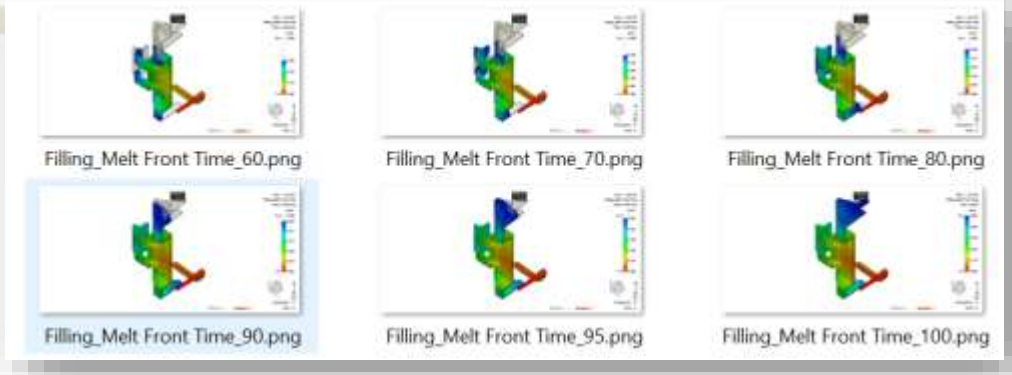
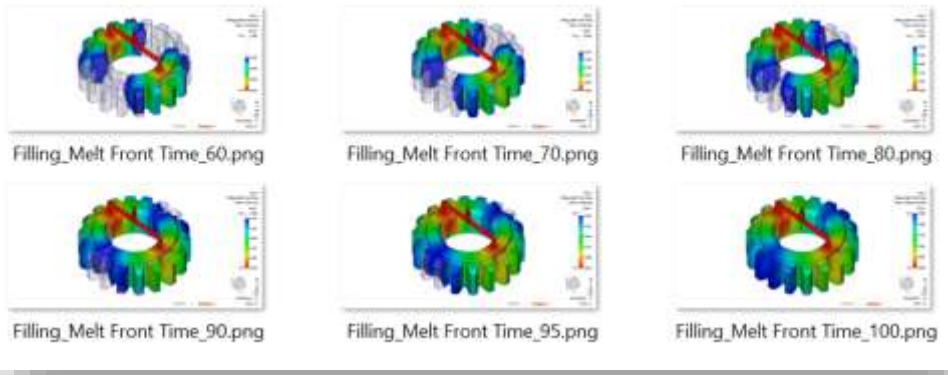
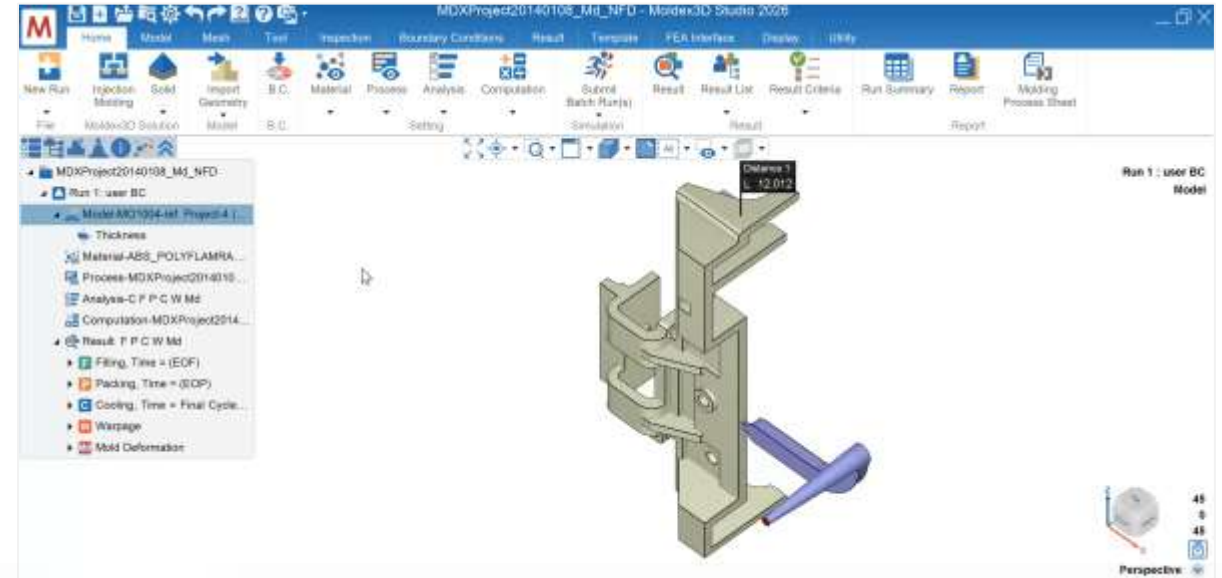
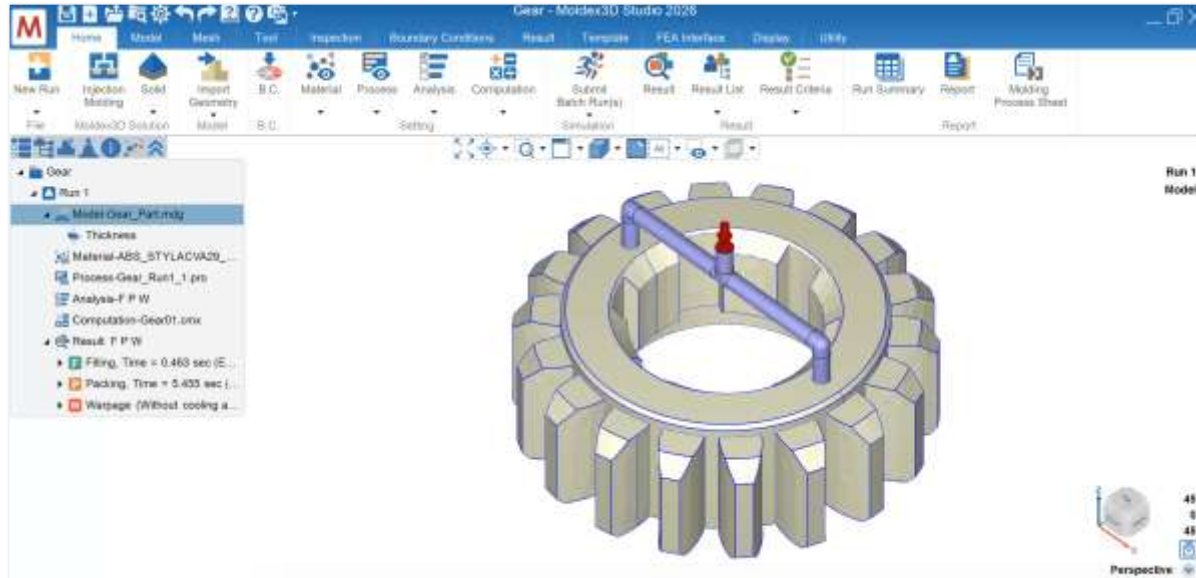
Macro Recording

Beta

A lightweight, no-code entry point for UI-driven automation

Record

Play



Studio API 1.0 vs 2.0

API 1.0 COM-based

API 2.0 Pythonic Wrapper

```
# -*- coding: UTF-8 -*-
import win32com.client

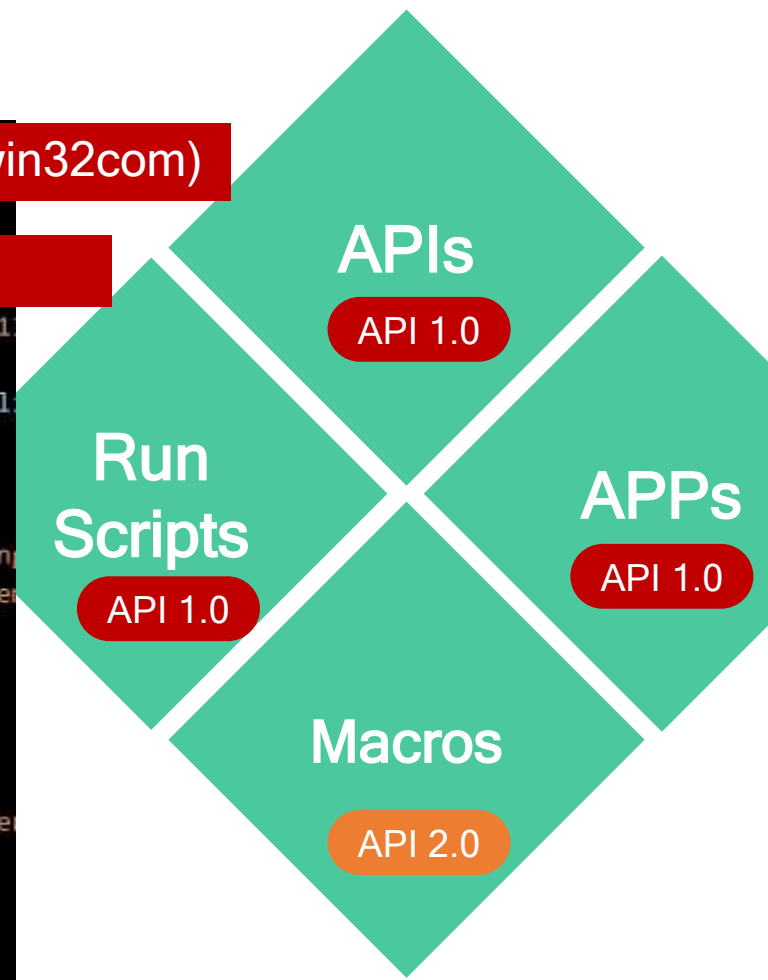
def main():
    # Setup
    typelib_uuid = '{DC773CF9-C750-149A-E57C-802F4C7CA1}'
    program_id = 'Moldex3DStudio2026.App'
    win32com.client.gencache.MakeModuleForTypelib(typelib_uuid)
    studio = win32com.client.DispatchEx(program_id)

    #
    run_ref = studio.NewProject("Demo2", "D:\\MDXWorkingFolder\\Demo2")
    obj_ref = studio.OpenFile("D:\\MDXWorkingFolder\\Demo2\\part.prt")
    studio.SetObjsAsCavity(obj_ref)
    new_gate_ref = studio.AddPinGate(0.5, 0.5, 0.5)
    studio.GenerateMesh_BLM_Wizard()
    studio.CloseCurrentWizard()
    studio.FinalCheck()
    studio.SetMaterialFile(run_ref, "D:\\MDXWorkingFolder\\Demo2\\material.mat")
    studio.SetAnalysis(run_ref, 'F P W')
    studio.Close()

if __name__ == "__main__":
    main()
```

Requires pywin32 (win32com)

Requires Registry-bound UUIDs

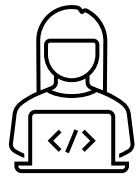


```
# -*- coding: utf-8 -*-
import mdx3d

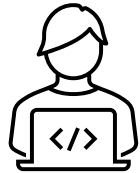
def main():
    studio = mdx3d.Studio()
    err, = studio.Connect()
    if err != 0:
        raise RuntimeError(err)
    run1, _ = studio.NewProject("D:\\MDXWorkingFolder\\Demo2")
    obj1, _ = studio.ImportFile("D:\\MDXWorkingFolder\\Demo2\\part.prt")
    studio.SetObjsAs(obj1, "part")
    obj2, _ = studio.AddPinGate((-0.375216, -45.9136, -45.9136))
    studio.GenerateMesh("BLM")
    studio.FinalCheck(run1)
    studio.SetMaterialFile("D:\\MDXWorkingFolder\\Demo2\\material.mat")
    studio.GenerateDefaultProcessFile(run1)
    studio.SetAnalysisSequence(["F",], run1)

if __name__ == '__main__':
    main()
```

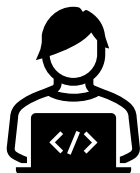
Automation Integrated Workflow



Product Designer



Mechanism designer

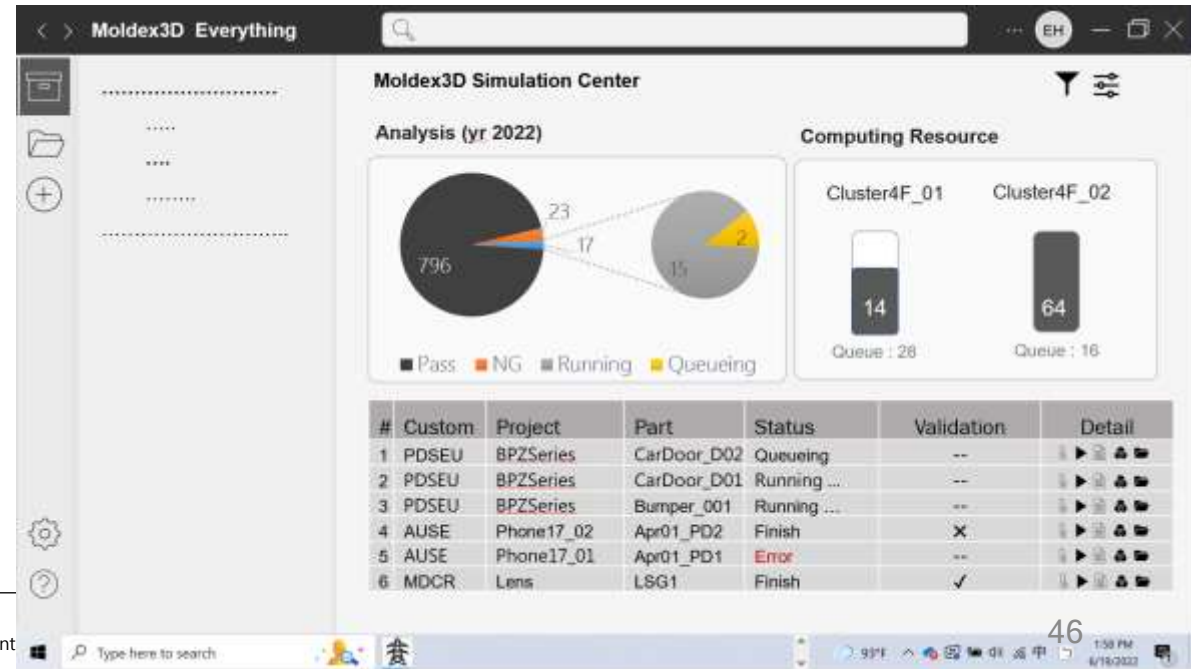
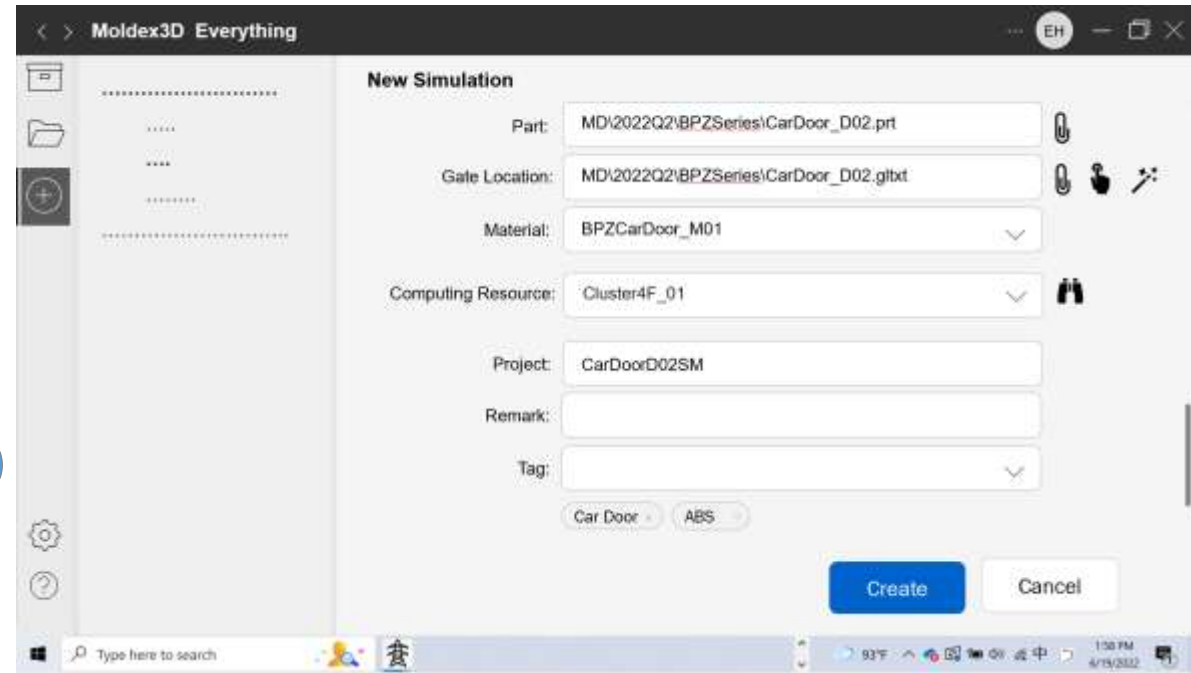


Mold designer

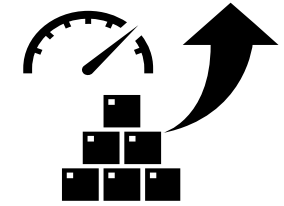
Moldex3D API



IT system



Automated Simulation



Go
Analysis
APP

Go Analysis

Automatically create multiple projects with different product and gate design for comparison and analysis.

Submit Analysis ... Create Batch Pr...

Auto
Launch
in iSLM

Moldex3D iSLM

Create Solution

New Solution Auto Launch

CAD Model

Click add file, STP & PRT file only

Default Settings

Workflow

Complete Analysis

Design Method

Gate Design Discovery

Manual

Advanced Settings

Add Setting

Cancel Auto Launch

Total: 652 Items Page: 1

Auto Launch in iSLM



CAD



Create Solution

New Solution

Auto Launch

Click add file, STP & PRT file only

Default Material **Default** ABS GPPC ABS D-1000 GPPC

NX Sample Model... **Default** ABS GPPC ABS D-1000 GPPC

Cavity.stp **Default** ABS GPPC ABS D-1000 GPPC

Default ABS GPPC ABS D-1000 GPPC

Material

Default Settings

Workflow

F P C Workflow test 1

Design Method

Automatic

Design Discovery

Manual

Advanced Settings

+ Add Setting

Analysis Sequence

Mold Design
(for gate, cooling system)

Cancel

Auto Launch

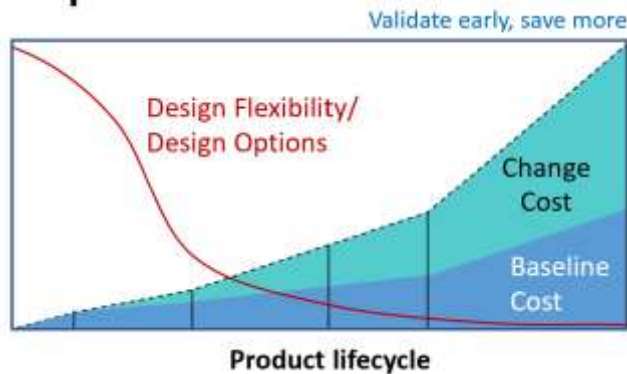
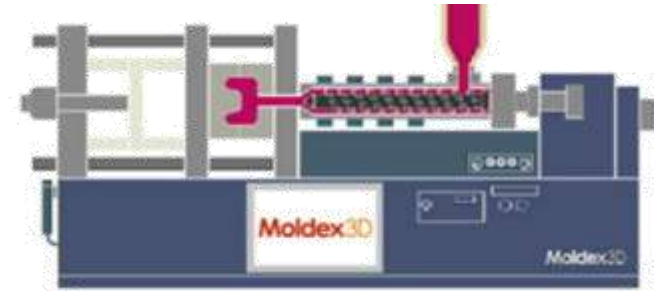
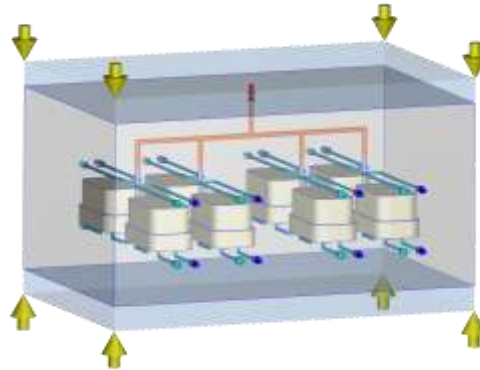
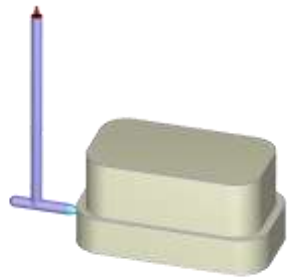
Auto Launch

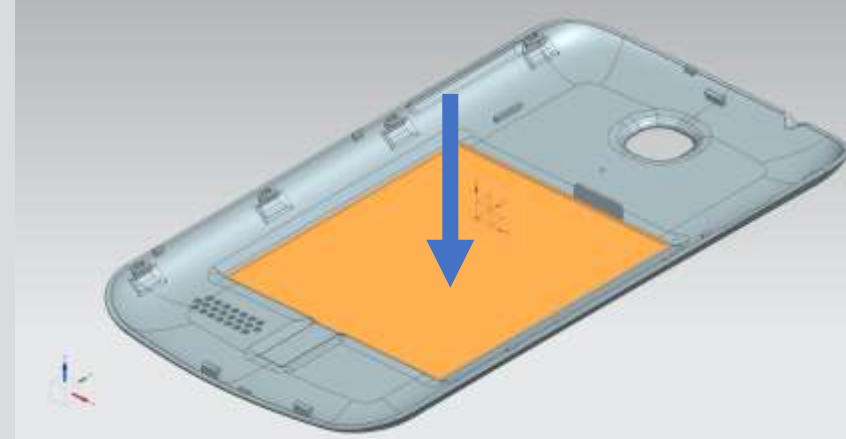
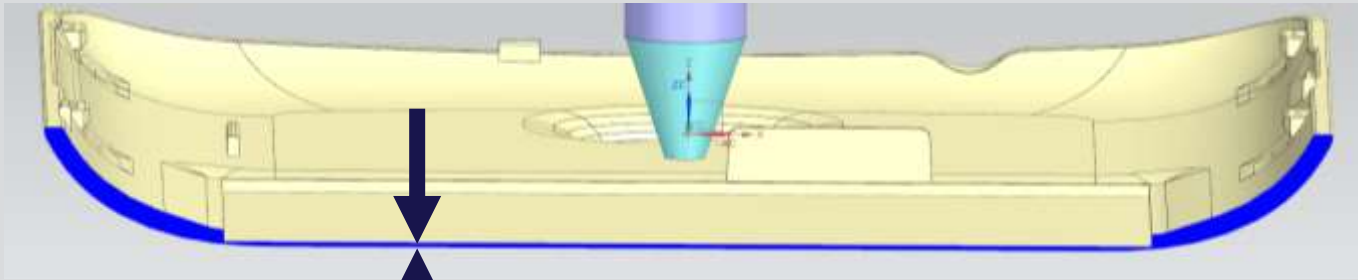


Optimization

Finding optimized parameters accelerates the development cycle and improves quality.

Tooling Development Timeline

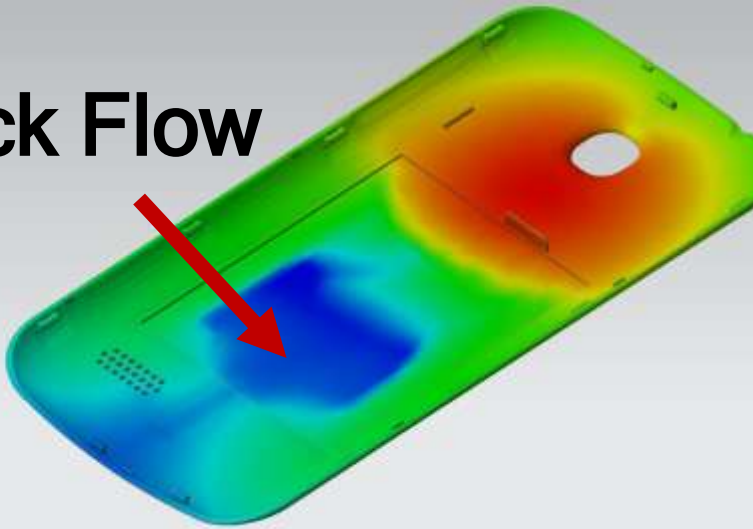




Issue

Resolved

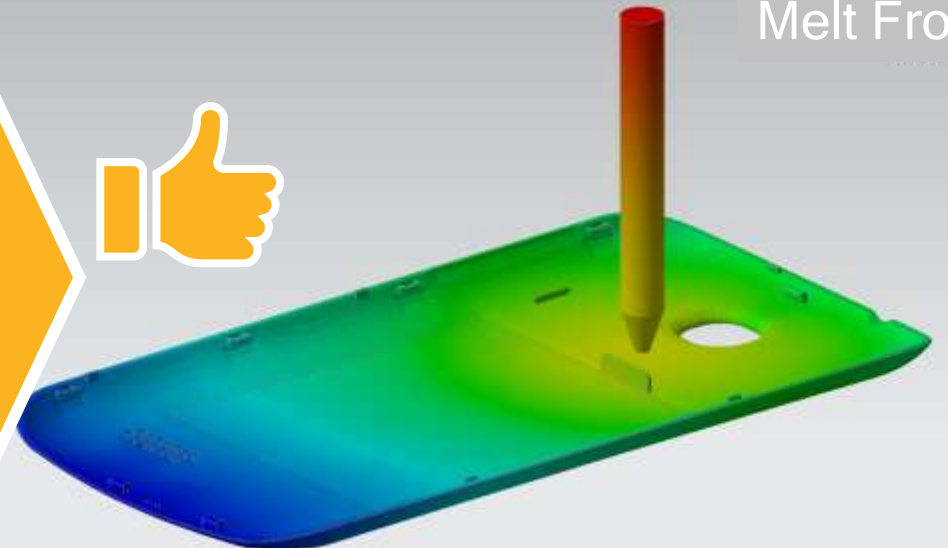
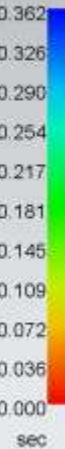
Back Flow



**Moldex3D
DPS**



Melt Front Time



Weld Line

Air Trap

No Weld Line

No Air Trap



Moldex3D DPS (Design Parameter Study)

CAE Moldex3D 2026

Moldex3D Studio

Moldex3D SYNC

CAD **SIEMENS NX**

rib_dw

rib_height

Distance 3

End 1.0

EDC Report

Type	Design Parameter	Level	Level 1	Level 2	Level 3	Level 4	Level 5	No. of Run/30
Control Factor								
1	rib_height (mm)	4	0.0	1	1.5	2		
2	rib_width (mm)	5	4.5	5.000	1	2	3	

Parallel Coordinates Plot

Filling_Melt Front Time (Group 1) [sec] (SD)

Warpage_Total Displacement (mm) (Max)

Warpage_X Displacement (mm) (Absolute Max)

Warpage_Y Displacement (mm) (Absolute Max)

Warpage_Z Displacement (mm) (Absolute Max)

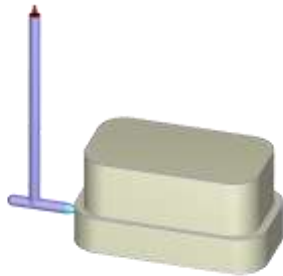
End Limit, Back Flow, Flow Release, Pressure, Weld Line Meeting A., Air Trap, Total Displacement

Optimization Solutions During the Development Timeline

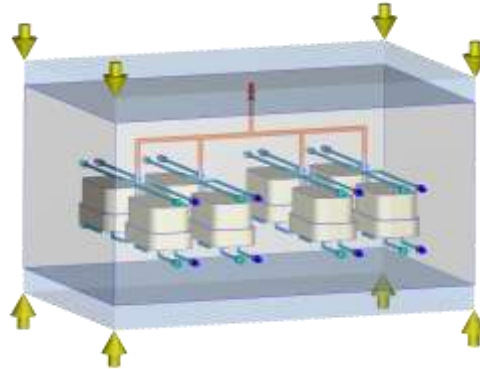
Product Design

Mold Design

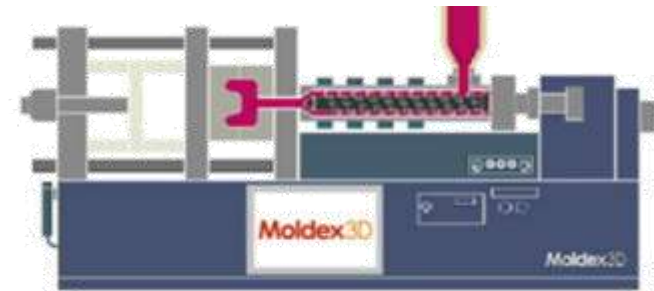
Mold Trial & Mass Production



DPS



DOE
+
AI Wizard



Moldex3D DOE-Based Optimization vs. AI Optimization Wizard

DOE-Based Optimization	AI Optimization Wizard
Early-stage product design exploration and trend analysis	Focused local search and fine-tuning of processing parameters.
Predictable number of runs	Iterative process: more time-intensive

DOE Method: Taguchi Method

Method

Levels: 2 (2~5 or mixed level)

Control Factors: 2 (2~31)

Taguchi Array: L4(2^3) - 4 Runs, 3 Factors with 2 Levels

Factors

Type: Molding Parameter

#	Control Factor
1	Specify Control Factor
2	Specify Control Factor

L4(2^3) - 4 Runs, 3 Factors with 2 Levels

L8(2^7) - 8 Runs, 7 Factors with 2 Levels

L12(2^11) - 12 Runs, 11 Factors with 2 Levels

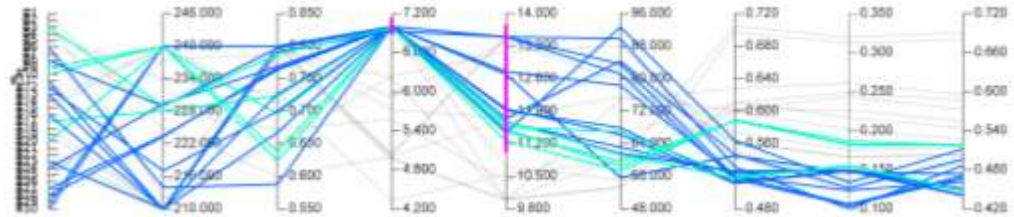
L16(2^15) - 16 Runs, 15 Factors with 2 Levels

L32(2^31) - 32 Runs, 31 Factors with 2 Levels

Solver Parameter: Maximum Iterations

Moldex3D DOE-Based Optimization vs. AI Optimization Wizard

DOE-Based Optimization	AI Optimization Wizard
Early-stage product design exploration and trend analysis	Focused local search and fine-tuning of processing parameters.
Predictable number of runs	Iterative process: more time-intensive
Identifies key factors and Selects the best combination of predefined levels	find the optimal parameter values.

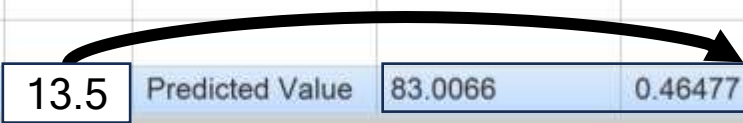


Moldex3D DOE-Based Optimization vs. AI Optimization Wizard

DOE-Based Optimization	AI Optimization Wizard
Early-stage product design exploration and trend analysis	Focused local search and fine-tuning of processing parameters.
predictable number of runs	Iterative process: more time-intensive
Identifies key influencing factors and Selects the best combination of predefined levels	find the optimal parameter values.
Leverages Response Surface Methodology (RSM) for real-time quality prediction	

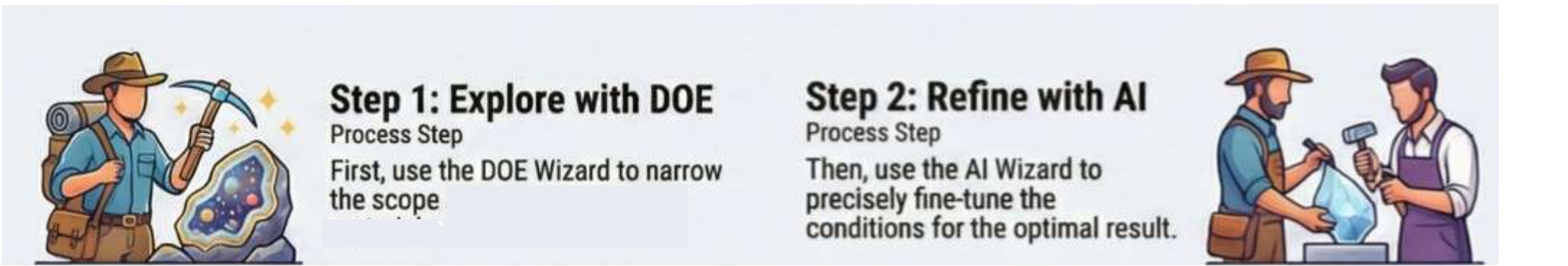


Run 11*	ABS_POLYLACPA746M_1.mtr	220	7	15	Run 11*	83.7279	0.443744	0.0964301
Prediction								
Setting	ABS_POLYLACPA746M_1.mtr	220	7	13.5	Predicted Value	83.0066	0.46477	0.196503

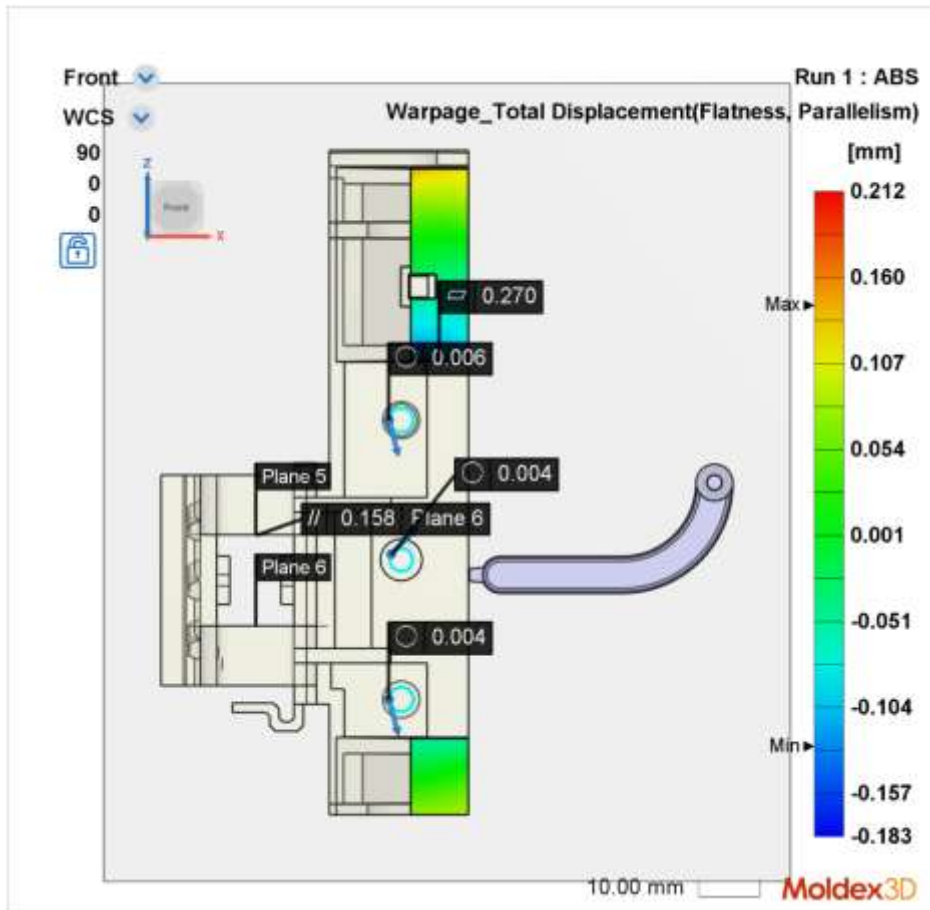


Moldex3D DOE-Based Optimization vs. AI Optimization Wizard

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Early-stage product design exploration and trend analysis	Focused local search and fine-tuning of processing parameters.
predictable number of runs	Iterative process: more time-intensive
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Leverages Response Surface Methodology (RSM) for real-time quality prediction	



Case Study: Synergizing DOE Insights and AI-Driven Optimization



Problem Statement

- fixed gate, runner, and mold design
- Identify the optimal molding solution that meets **flatness tolerance** requirements while achieving **minimum warpage**, **minimum sprue pressure**, and the **shortest cycle time**

Variables (Control Factors)

- Material Selection
- Melt Temperature
- Packing Time
- Cooling Time


AI Implementation Strategy

- **Step 1:** Use DOE to identify key factors
- **Step 2:** Apply AI Optimization Wizard to find the shortest cycle time

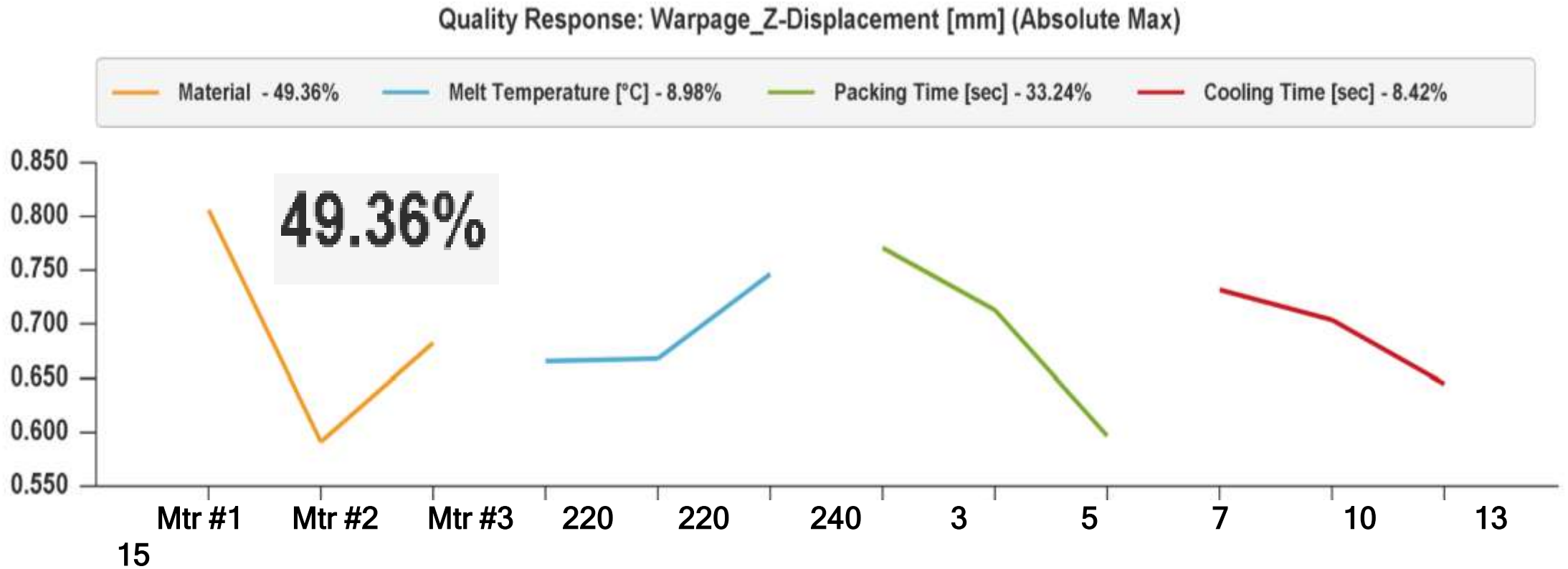
Step 1: Use DOE to Identify Key Factors

Variables (Control Factors)

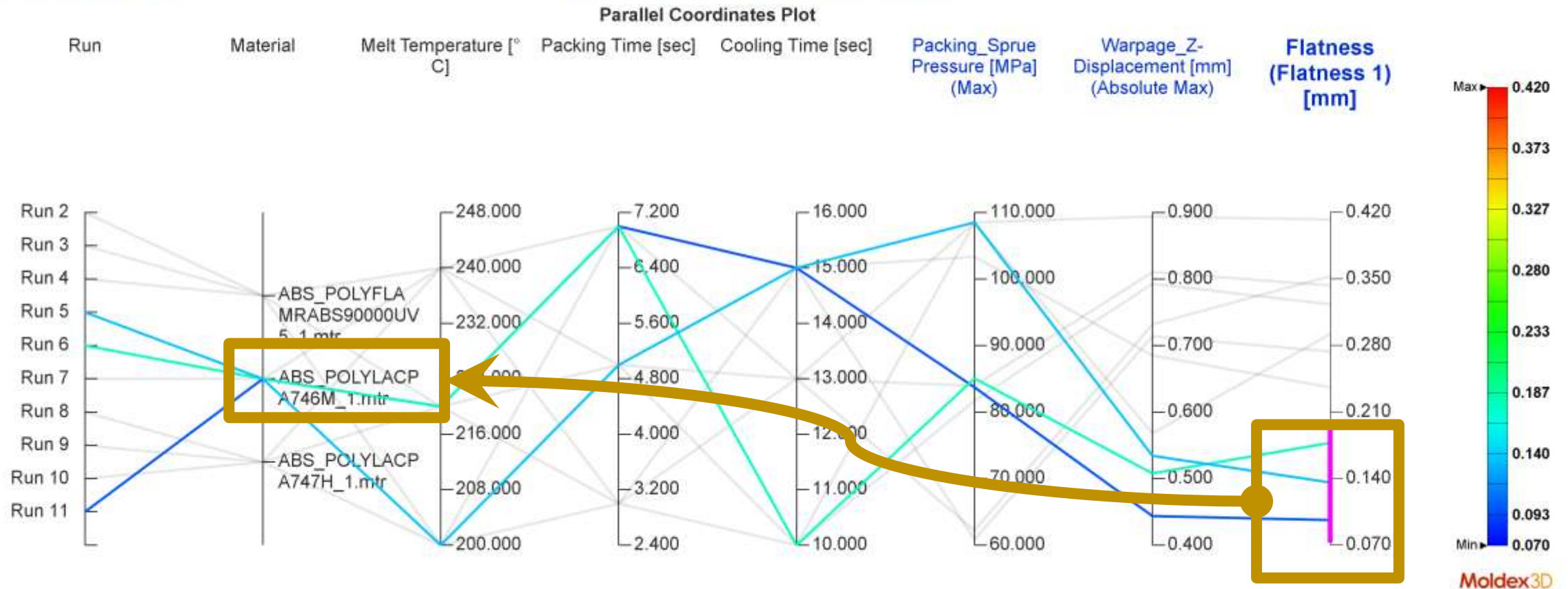
- Material Selection
- Melt Temperature
- Packing Time
- Cooling Time

DOE Method:	Taguchi Method
 Method	
Levels:	3 (2~5 or mixed level)
Control Factors:	4 (2~13)
Taguchi Array:	L9(3^4) - 9 Runs, 4 Factors with 3 Levels

Identifying Key Factors



Filtering the Parallel Coordinates Plot (Flatness < 0.2mm) isolates Material #2.

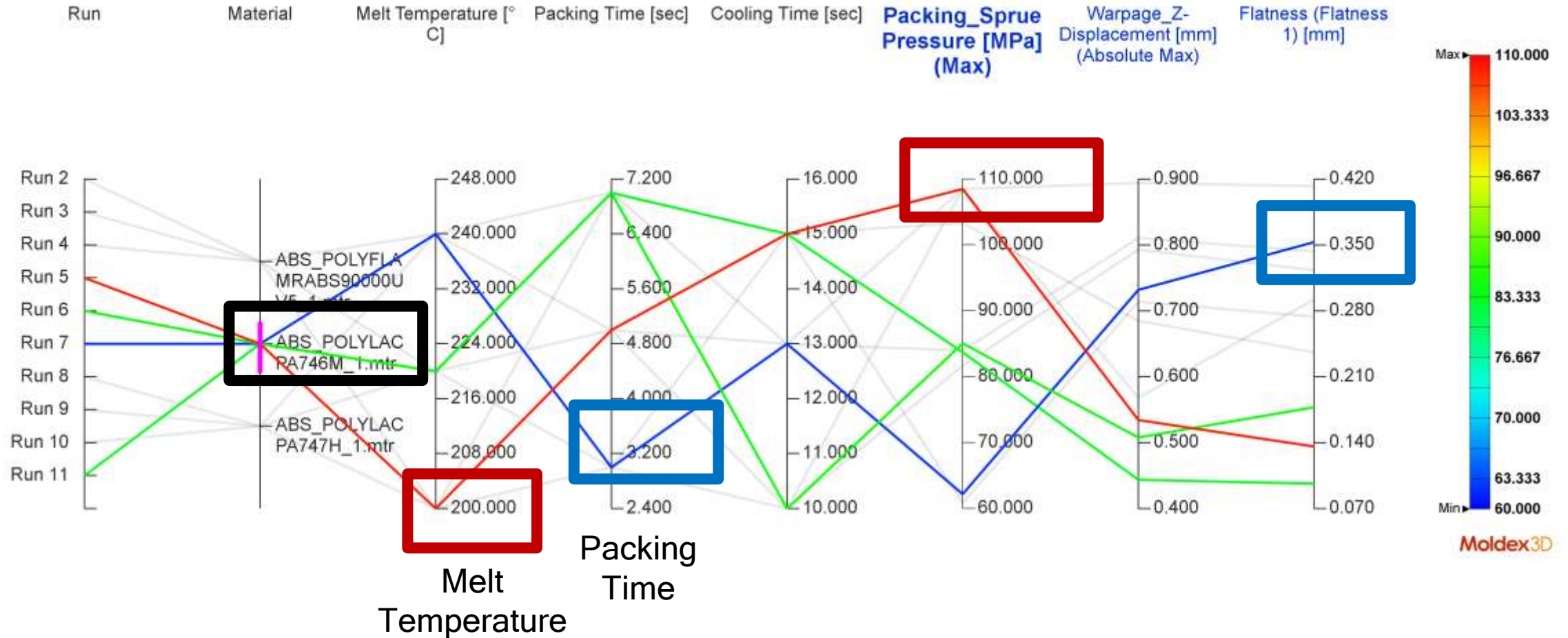


Moldex3D

Material #2 is our choice, but it requires careful tuning.



Parallel Coordinates Plot



Moldex3D

Shorter Cycle Time?



Tool:
RSM Prediction

Discovery:
Cooling time can drop
to **13.5s.**

Result:
Same quality, faster
cycle.

DOE Wizard

Setting Summary

DOE Table

Control Factor	Material	Melt Temperature [°C]	Packing Time [sec]	Cooling Time [sec]	Quality Factor	Packing_Sprue Pressure [MPa] (Max)	Warpage_Z-Displacement [mm] (Absolute Max)	Flatness [mm]
Level	3	3	3	3	Target	Global	Global	Flatness 1
Min		200	3	10	Goal	Smaller	Smaller	Smaller
Max		240	7	15	Weighting	1	1	1
1. Run 2	ABS_POLYFLAMRABS90000UV5_1.mtr	200	3	10	1. Run 2	108.5	0.893954	0.412528
2. Run 3	ABS_POLYFLAMRABS90000UV5_1.mtr	220	5	13	2. Run 3	83.9681	0.810397	0.3432
3. Run 4	ABS_POLYFLAMRABS90000UV5_1.mtr	240	7	15	3. Run 4	60.8724	0.713855	0.273809
4. Run 5	ABS_POLYLACPA746M_1.mtr	200	5	15	4. Run 5	108.5	0.53431	0.135937
5. Run 6	ABS_POLYLACPA746M_1.mtr	220	7	10	5. Run 6	85.0622	0.507888	0.177659
6. Run 7	ABS_POLYLACPA746M_1.mtr	240	3	13	6. Run 7	62.1911	0.731901	0.352966
7. Run 8	ABS_POLYLACPA747H_1.mtr	200	7	13	7. Run 8	108.5	0.568225	0.29217
8. Run 9	ABS_POLYLACPA747H_1.mtr	220	3	15	8. Run 9	103.339	0.685114	0.235997
9. Run 10	ABS_POLYLACPA747H_1.mtr	240	5	10	9. Run 10	81.6933	0.792989	0.323301
Run 11*	ABS_POLYLACPA746M_1.mtr	220	7	15	Run 11*	83.7279	0.443744	0.0964301
	ABS_POLYLACPA746M_1.mtr	220	7	13.5	Predicted Value	83.0066	0.46477	0.196503

5	10	9. Run 10
7	15	Run 11
7	13.5	Predic

Step 2: Apply AI Optimization Wizard

"AI Optimization Constraints:"

Flatness: ≤ 0.2 mm

Z-Displacement: < 0.6 mm

The screenshot shows the 'AI Optimization Wizard' interface with the following details:

- Name:** AI Optimization 2
- Base Run:** Run 11
- Analysis Sequence:** Transient Analysis -CL F P Ct W
- Analysis Setting:** Solver Parameter: Maximum Iterations: 30
- Factors Table:**

#	Control Factor	Min	Max
1	Melt Temperature [°C]	210	240
2	Filling Time [sec]	0.4	0.8
3	Packing Time [sec]	3	7
4	Cooling Time [sec]	10	13.5
- Quality Factor Table:**

#	Quality Factor	Target	Property	Goal	Weighting	%
1	Packing_Sprue Pressure [MPa]	Global		Smaller	1	25.0%
2	Packing_Volumetric Shrinkage [%]	Global		Uniform	1	25.0%
3	Warpage_Total Displacement [mm]	Global		Smaller	1	25.0%
4	Cooling_Max. Time to Reach Ejection Temperat...	Global		Smaller	1	25.0%

Constraint (Optional)

#	Constraint	Target	Property	Operator	Value
1	Flatness [mm]	Flatness 1		\leq	0.2
2	Warpage_Z-Displacement [mm]	Global		\leq	0.6

Final Validation: A 13.5s cooling time is proven to satisfy all design constraints while optimizing efficiency

Feasible (Yes): The parameter set meets all quality constraints (Flatness, Filling, and Z-Displacement).

AI Optimization Wizard

Setting Summary

Iteration Table

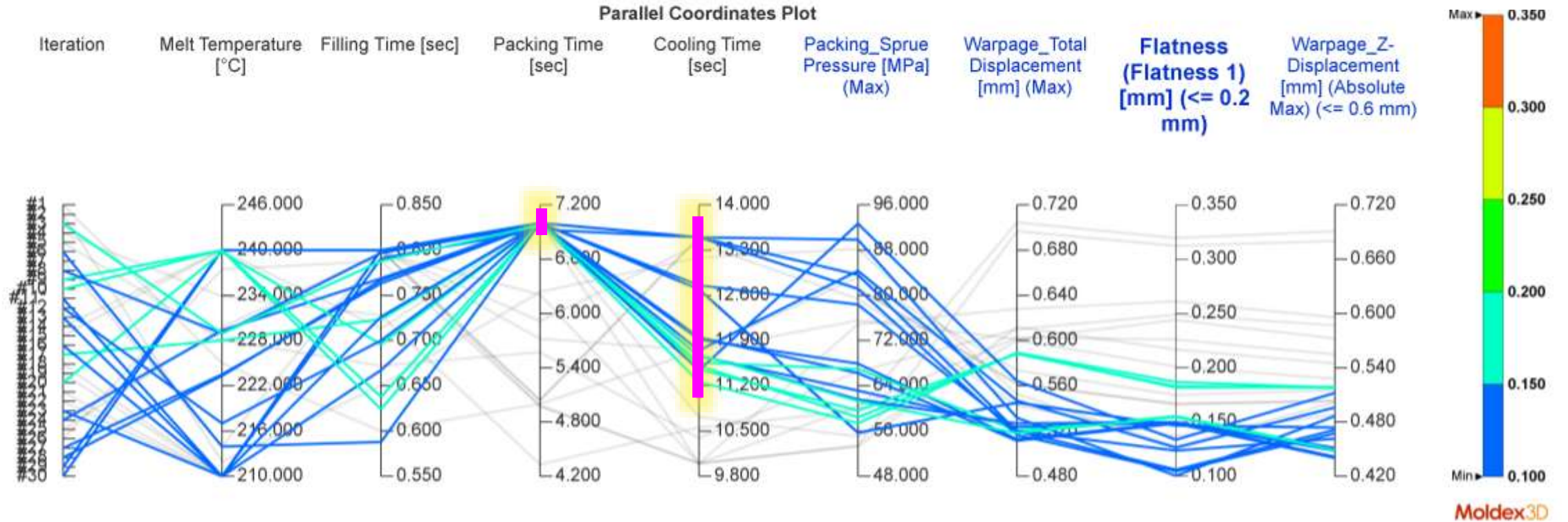
Control Factor	Melt Temperature [°C]	Filling Time [sec]	Packing Time [sec]	Cooling Time [sec]	Quality Factor	Packing_Sprue Pressure [MPa] (Max)	Packing_Volumetric Shrinkage [%] (SD)	Warpage_Total Displacement [mm] (Max)	Score	Frontier	Constraint	Flatness [mm]	Packing_Volume Fraction [%] (Max)	Warpage_Z-Displacement [mm] (Absolute Max)	Feasible
Min	210	0.4	3	10	Target	Global	Global	Global	--	--	Target	Flatness 1	Global	Global	--
Max	240	0.8	7	13.5	Goal	Smaller	Uniform	Smaller	--	--	Operator	≤	≥	≤	--
					Weigh...	1.0	1.0	1.0	--	--	Value	0.2	100	0.6	--
Optimal															
11*	210	0.8	7	13.5	11*	81.1616	1.22634	0.516609	81.658	YES	11*	0.104648	100	0.467375	YES
Iteration															
7	213.952	0.8	4.9778	10	7	74.9018	1.4825	0.628033	40.5557	NO	7	0.261171	100	0.595564	NO
8	228.952	0.79...	6.9778	11.6809	8	81.6019	1.33672	0.526737	77.2538	YES	8	0.14989	100	0.451438	YES
9	240	0.62...	7	11.4538	9	59.643	1.41595	0.588285	57.9602	NO	9	0.182886	100	0.517844	YES
10	240	0.63...	7	11.5134	10	58.4288	1.4145	0.588796	60.6508	NO	10	0.181868	100	0.518885	YES
11*	210	0.8	7	13.5	11*	81.1616	1.22634	0.516609	81.658	YES	11*	0.104648	100	0.467375	YES
12	217.018	0.70...	7	12.75...	12	78.3821	1.28047	0.520104	75.7929	YES	12	0.123672	100	0.461579	YES
13	210	0.66...	7	13.5	13	89.8607	1.23265	0.531766	72.3896	NO	13	0.100449	100	0.486594	YES
14	240	0.8	7	10	14	53.2921	1.40589	0.611963	61.1504	YES	14	0.218888	100	0.544617	NO
15	240	0.71...	7	10.71...	15	55.0551	1.41116	0.600344	59.6505	YES	15	0.201207	100	0.527826	NO
16	210	0.72...	7	11.75	16	84.353	1.23032	0.548968	72.6213	NO	16	0.126412	100	0.496086	YES
17	228.031	0.72...	7	11.5574	17	66.9971	1.35472	0.520252	72.0167	NO	17	0.155407	100	0.450332	YES
18	210	0.8	5.72133	11.75	18	83.2245	1.37068	0.573793	56.3214	NO	18	0.174904	100	0.51505	YES

Close

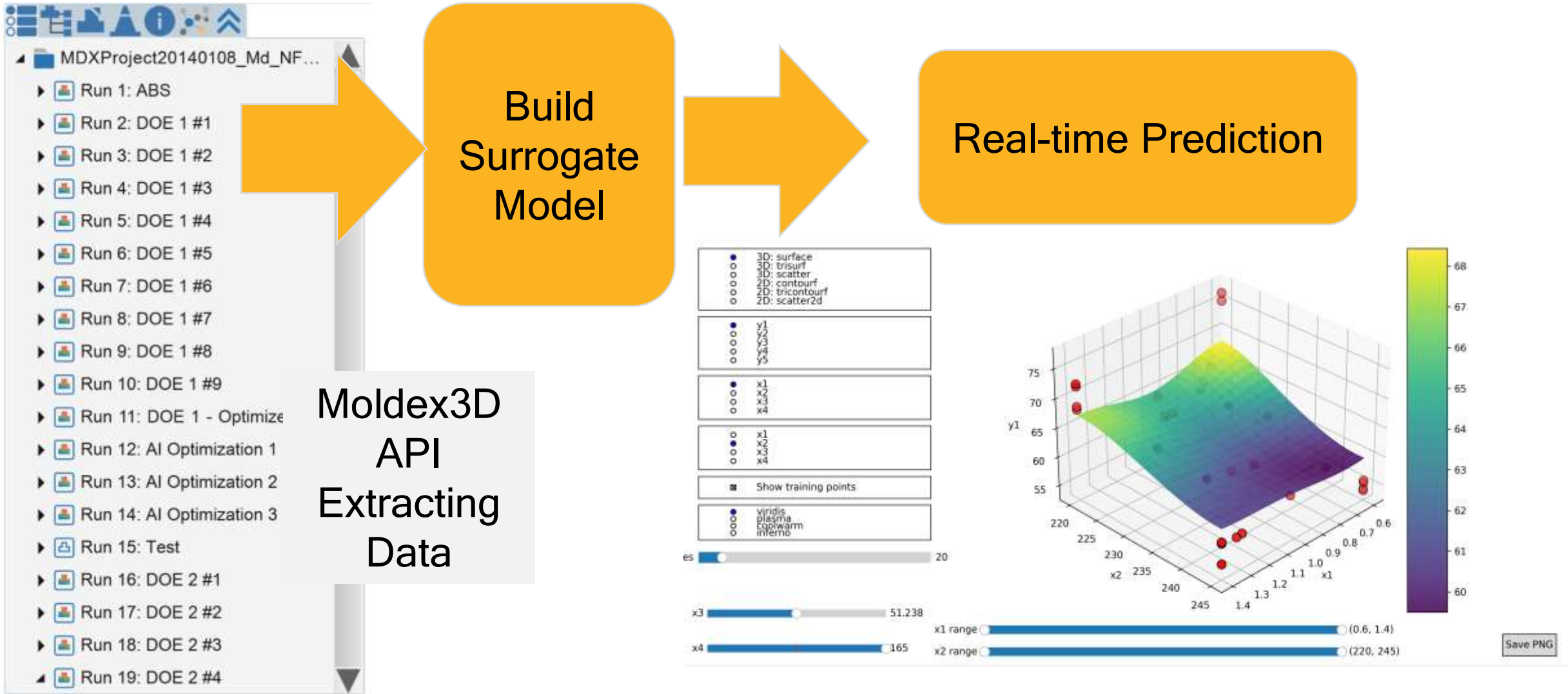
Final Success Story: Successfully saved 3 seconds off the cycle time with no compromise on quality.

Quality Window: Packing (7s) + Cooling (>12s) ensures superior warpage and flatness control.

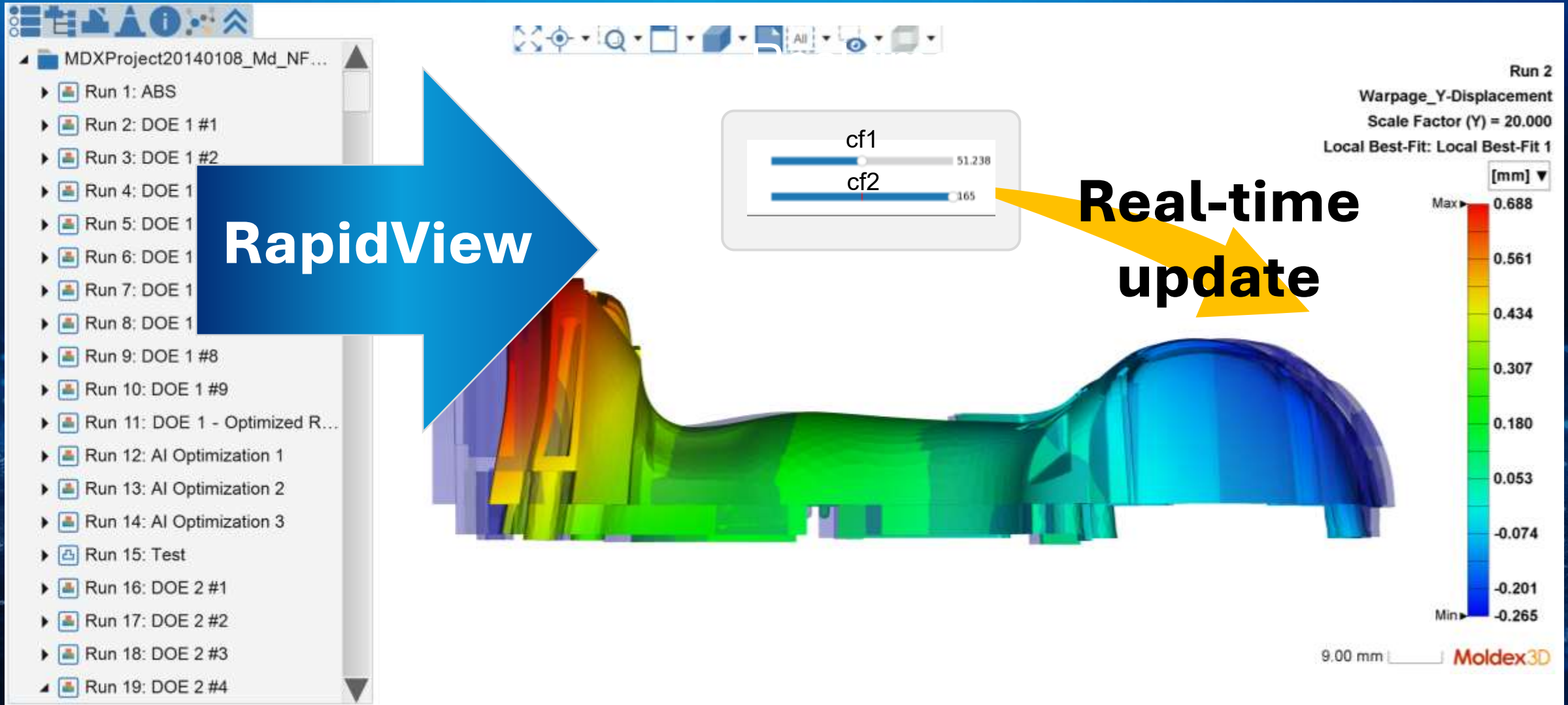
Pressure Management: Keep Melt Temp > 220°C to minimize injection pressure.



Surrogate Model → Real-time Prediction



Next Phase: RapidView (Moldex3D 2027)

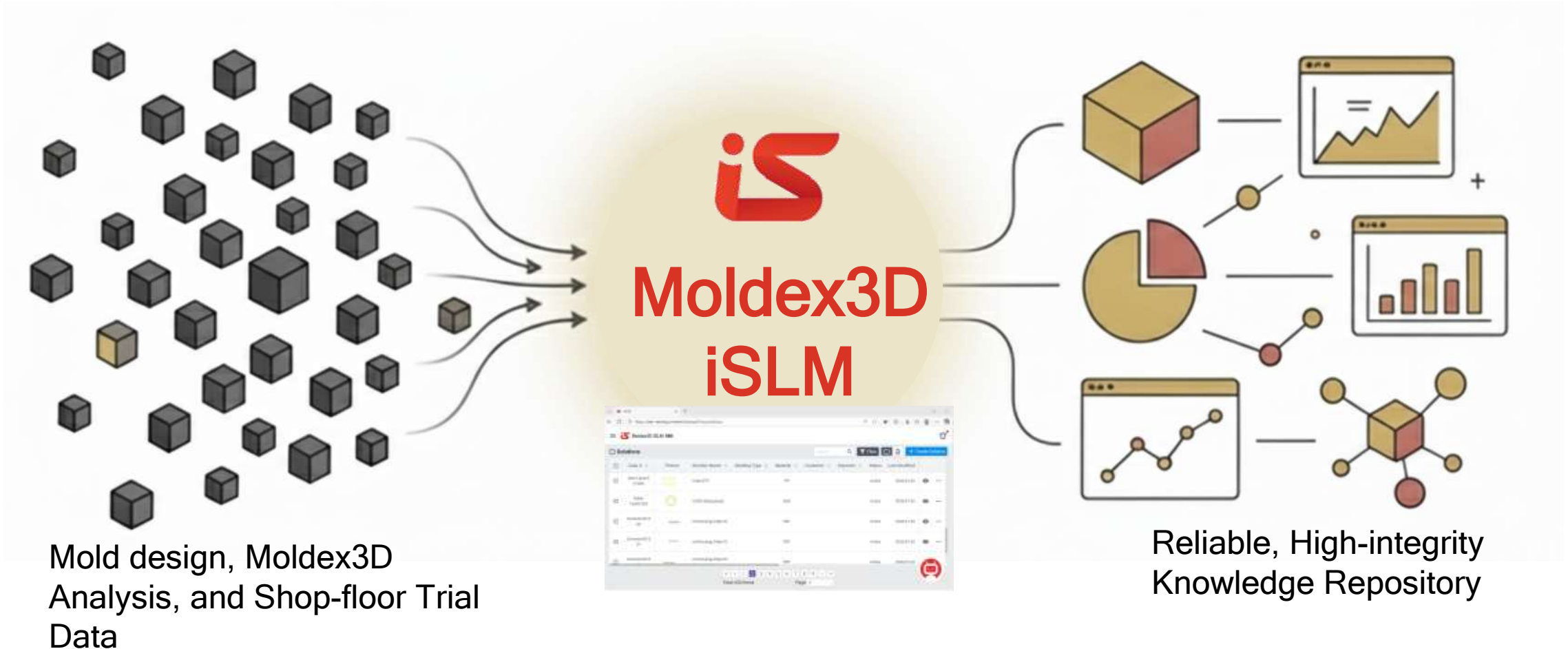




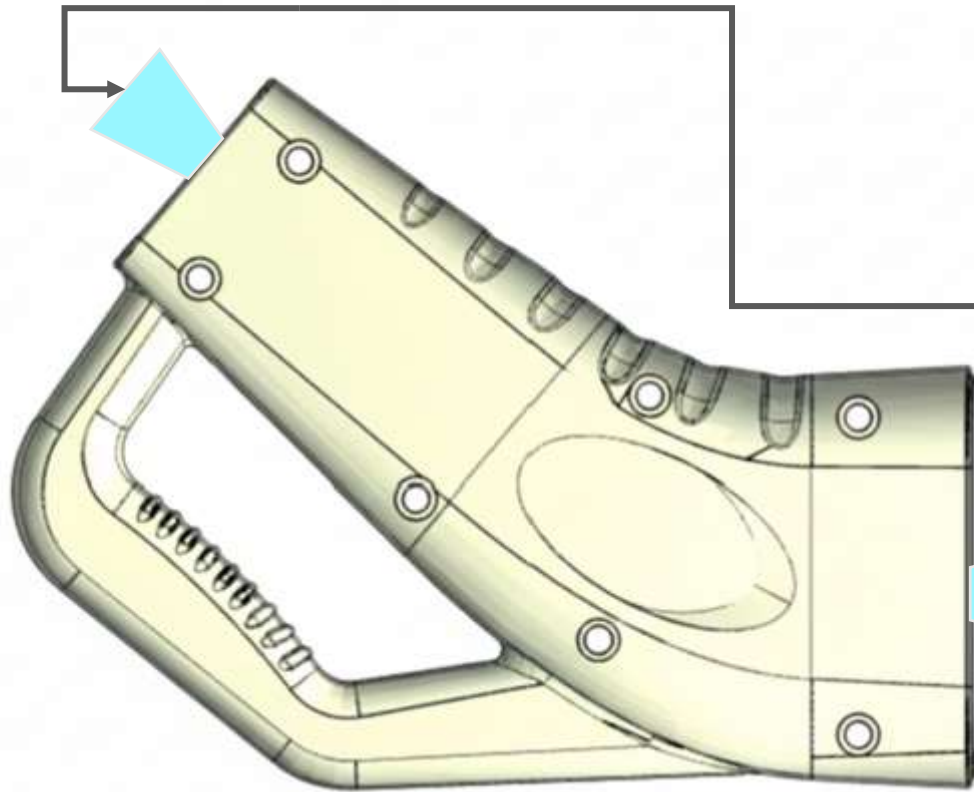
Intelligence

Preserving Success Experiences and Activating Digital Assets

iSLM: Consolidate Big Data Assets for Intelligent Reuse



Intelligent Reuse



Success Experiences

Provide Design Recommendations



- Beyond storing data, Molde3D transforms it into expert intelligence.-

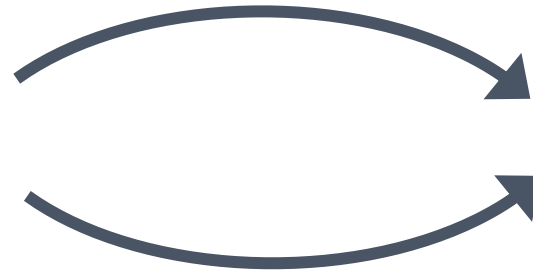
Seamless Edge-to-Cloud Integration

Moldex3D Studio

Moldex3D 2026



Upload



Moldex3D iSLM

Find Similar Geometry Case (Search by Model)



Next Phase:

Directly Leverage the iSLM Intelligence Database within **Moldex3D Studio**

Intelligent Molding Evaluation



Insight Discovery

Parting Direction

Parting Direction: X

Projection Area: 20 cm²

Report

Material: ABS

Recommended Gate Count: 5

Shrinkage Rate Possibility

X: 0.1%	30%
Y: 0.7%	40%
Z: 0.03%	30%

Cycle Time Possibility

Below 2s	30%
Below 3 s	40%
Below 50 MPa	30%

Max. Sprue Pressure Possibility

50-60 MPa	40%
60-70 MPa	10%
70-80 MPa	10%
Above 80 MPa	10%

Max. Clamping Force Possibility

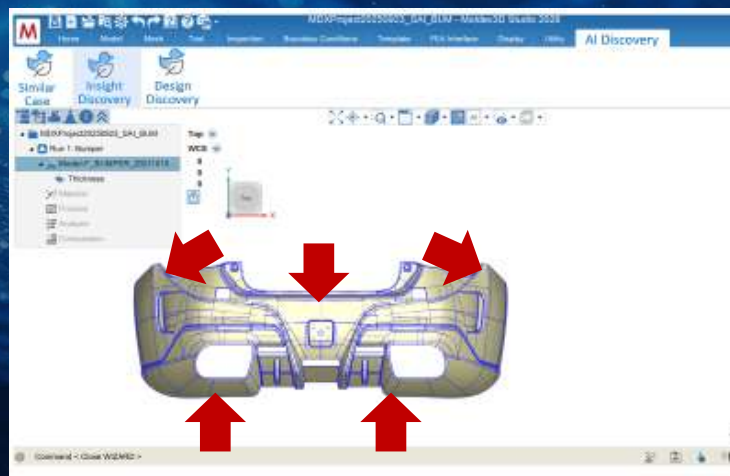
Below 150 ton	30%
150-160 ton	40%
160-170 ton	10%
170-180 ton	10%
Above 180 ton	10%

Reference Solutions: 2D Arms

Reference reliability: 3.5 stars

Generation Date: 2024/12/18 18:10:23

Intelligent Gating Design



Gate Design Discovery

72.5%

Gate Count: 5

Gate Type: Edge Gate

Gate Size: 2 mm

Sprue Pressure: 98.5 MPa

97.1%

Gate Count: 7

Gate Type: Edge Gate

Gate Size: 2 mm

Sprue Pressure: 78.5 MPa

Cancel Apply

Large Language Models (LLM)



Gemini



Grok

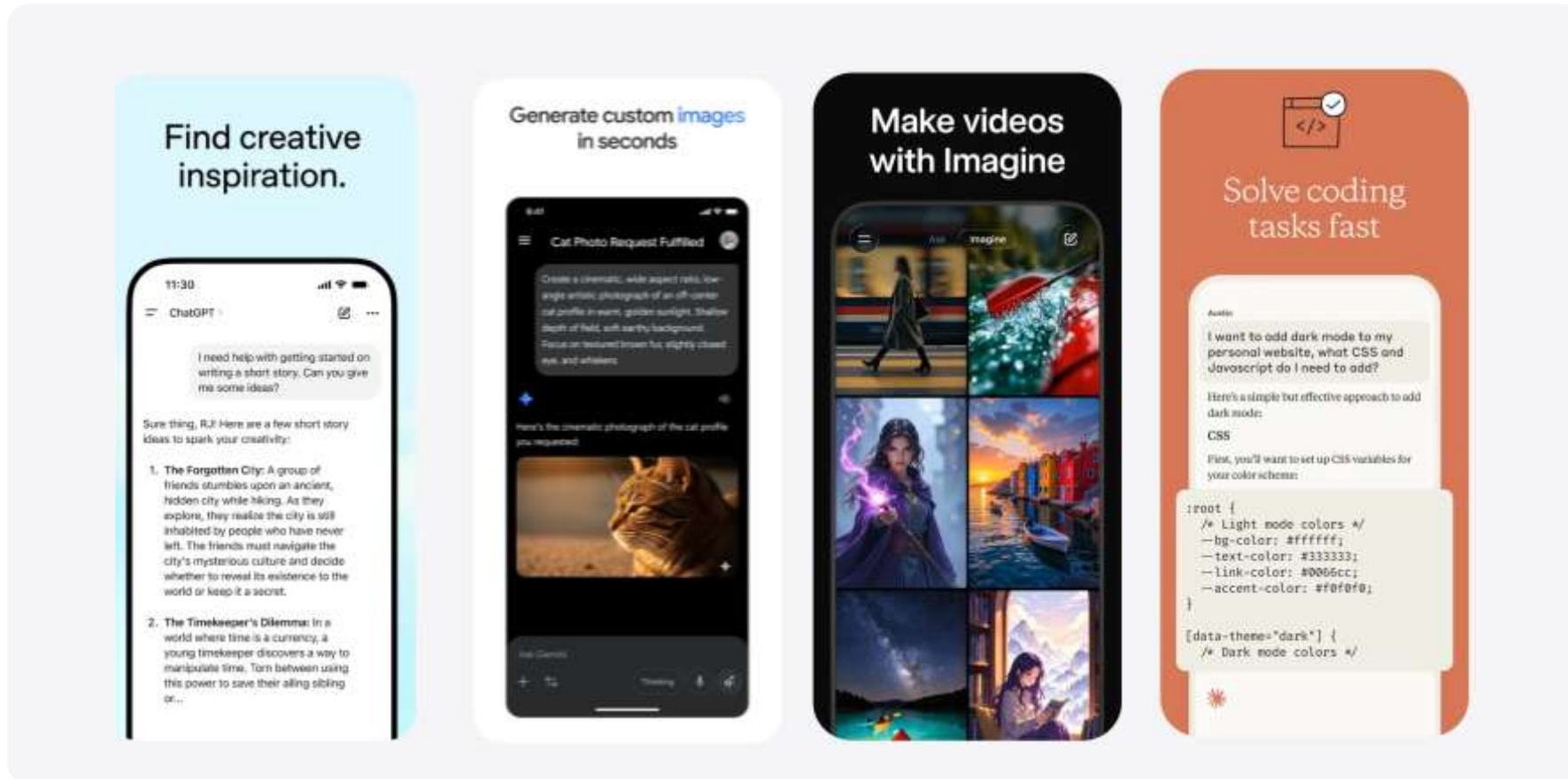


ChatGPT



Claude

Large Language Models (LLM)



Natural Language Input

 **Moldiverse**



MoldiBot

 **Moldex3D iSLM**



AI Chat



Hi Ellen 🙋
How can I help you today?

Message MoldiBot




Responses may contain inaccurate information. Please review MoldiBot's answers to important questions.

[Privacy Policy](#) | [EULA](#)



Moldex3D iSLM

Solutions

Case #	Picture	Solution Name	Molding Type	Material	Customer
autotest01338		Cell Phone		ABS	
autotest01337		0318_Sync Job2025-08-30-1 is created in server (Localhost)		N/A	
Auto Launch 01336		08		PP	
01331		20260120_gear_shell_test(v7)(Exported)		ABS	
Auto Launch		Exp. Part		N/A	

AI Chat Beta


How can I help you today?

I am using iSLM for the first time and would like to understand how to use this platform to manage CAE projects.

What are the ways to create a solution?


Message AI Chat

*Technical Support,
Data Searching*



Solutions

Case #	Picture	Solution Name	Molding Type	Material	Customer
Auto Launch 01308		Cube STP		PP	
Robin Test01303		CASE15(Exported)		ABS	
Connector013 02		md-housing-24pin-3r		PBT	
Connector013 01		md-housing-24pin-2r		PBT	
Connector013		md-housing-20pin-3r		PBT	


AI Chat Beta
🗨️

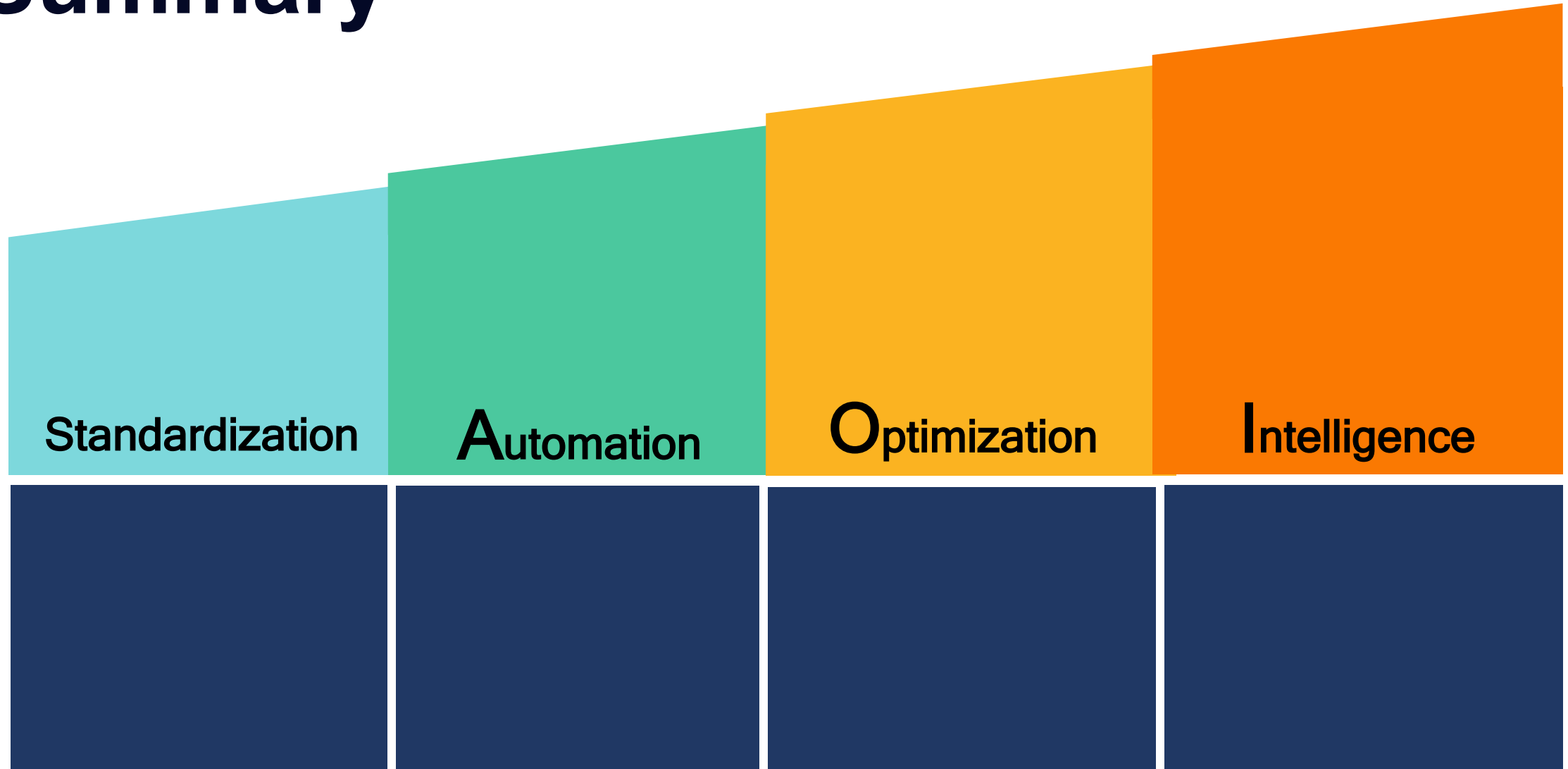
Here are all the gear simulation projects available:

- Project Name:** Gear
 - Owner:** Carol Lee
 - Case Number:** Auto Launch 01333
 - Material:** Not Specified
 - Part Volume:** 13.99 cm³
 - Nominal Thickness:** 1.998 mm
 - Link:** [Gear Project](#)
- Project Name:** 20260120_gear_shell_test(v7)(Exported)
 - Owner:** Nestor Cheng
 - Case Number:** 01331

Message AI Chat

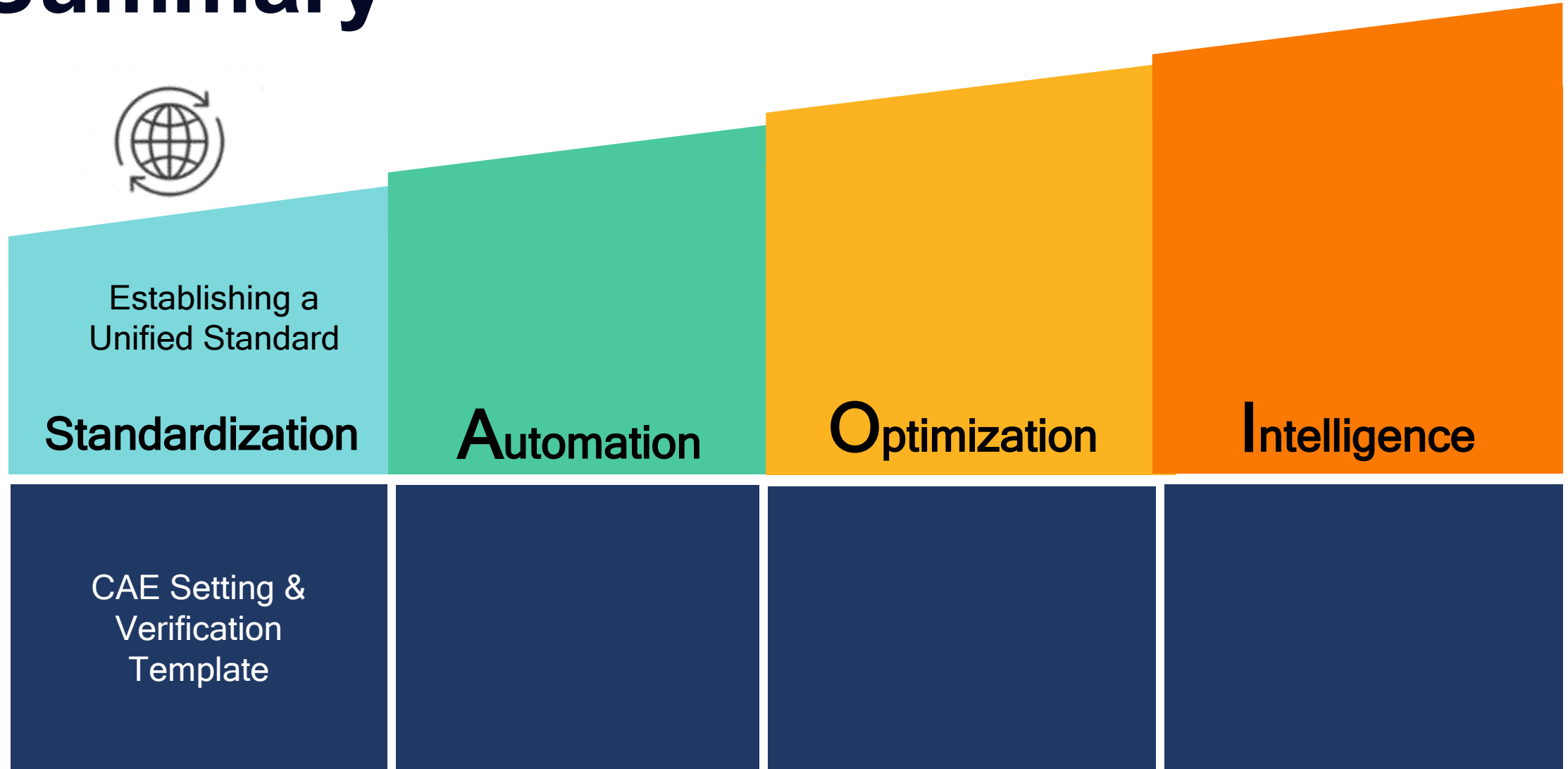
The Path to Digital Transformation: Moldex3D Solutions

Summary



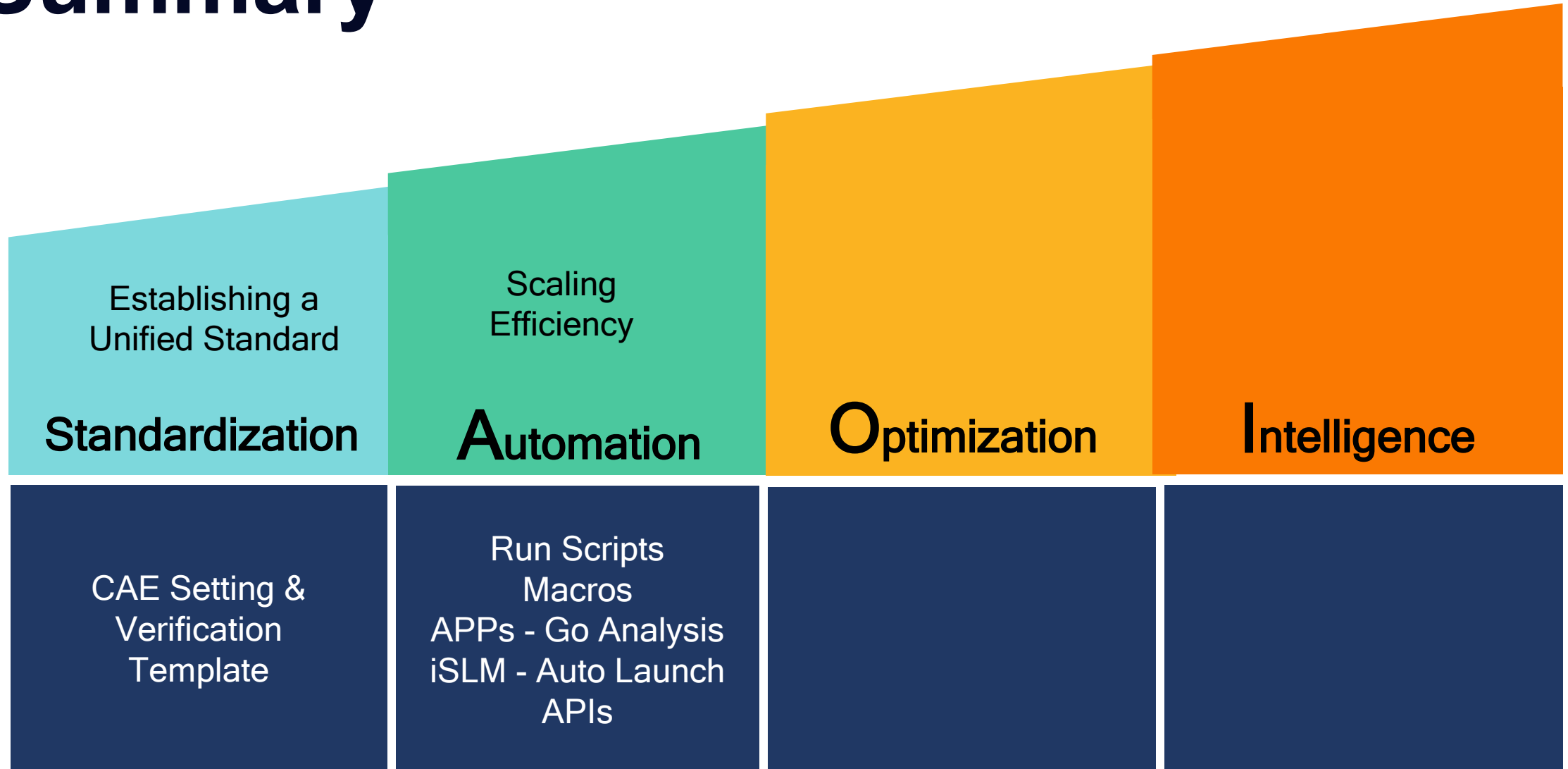
The Path to Digital Transformation: Moldex3D Solutions

Summary



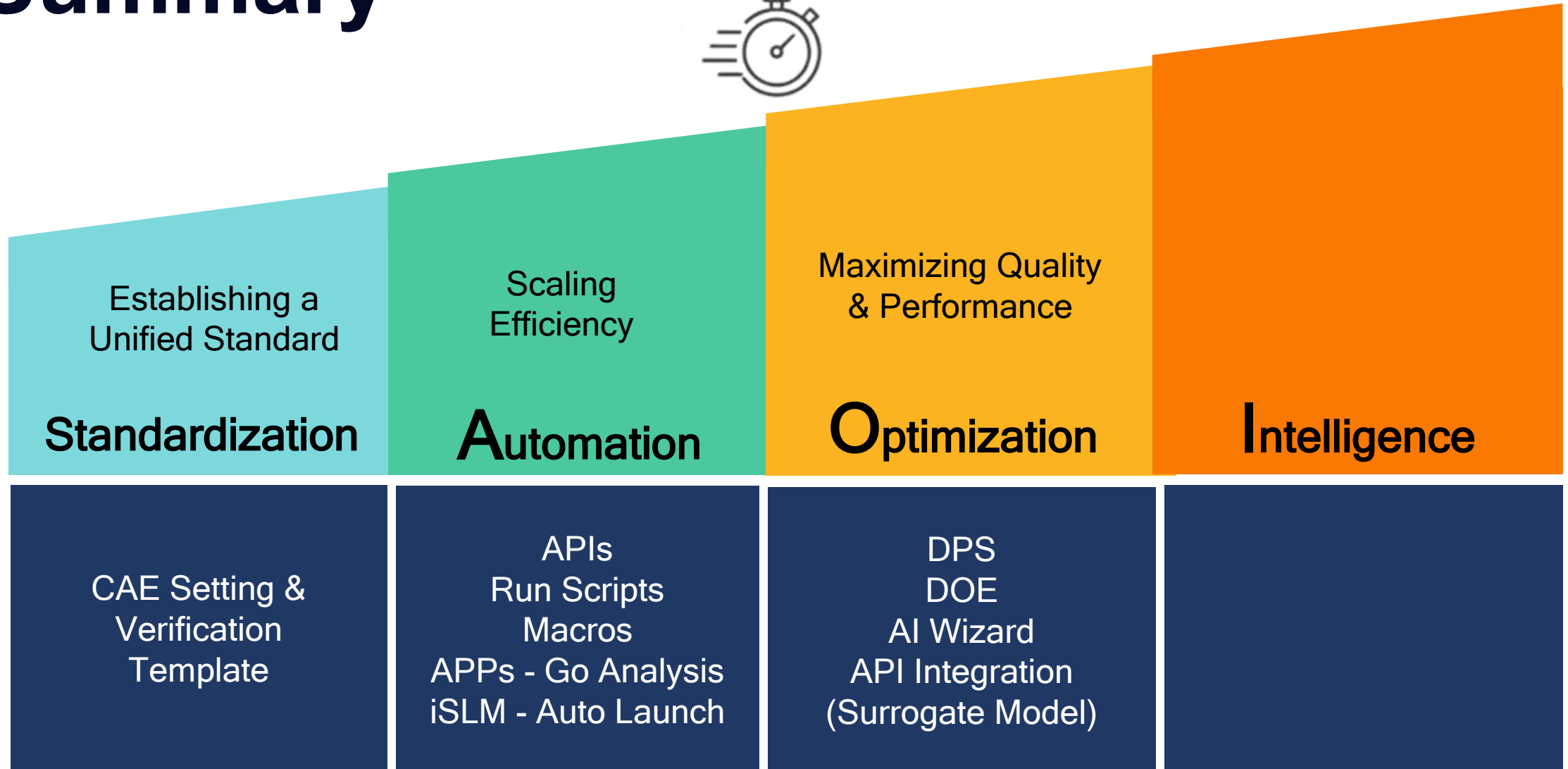
The Path to Digital Transformation: Moldex3D Solutions

Summary

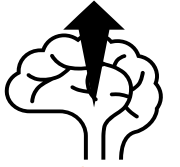


The Path to Digital Transformation: Moldex3D Solutions

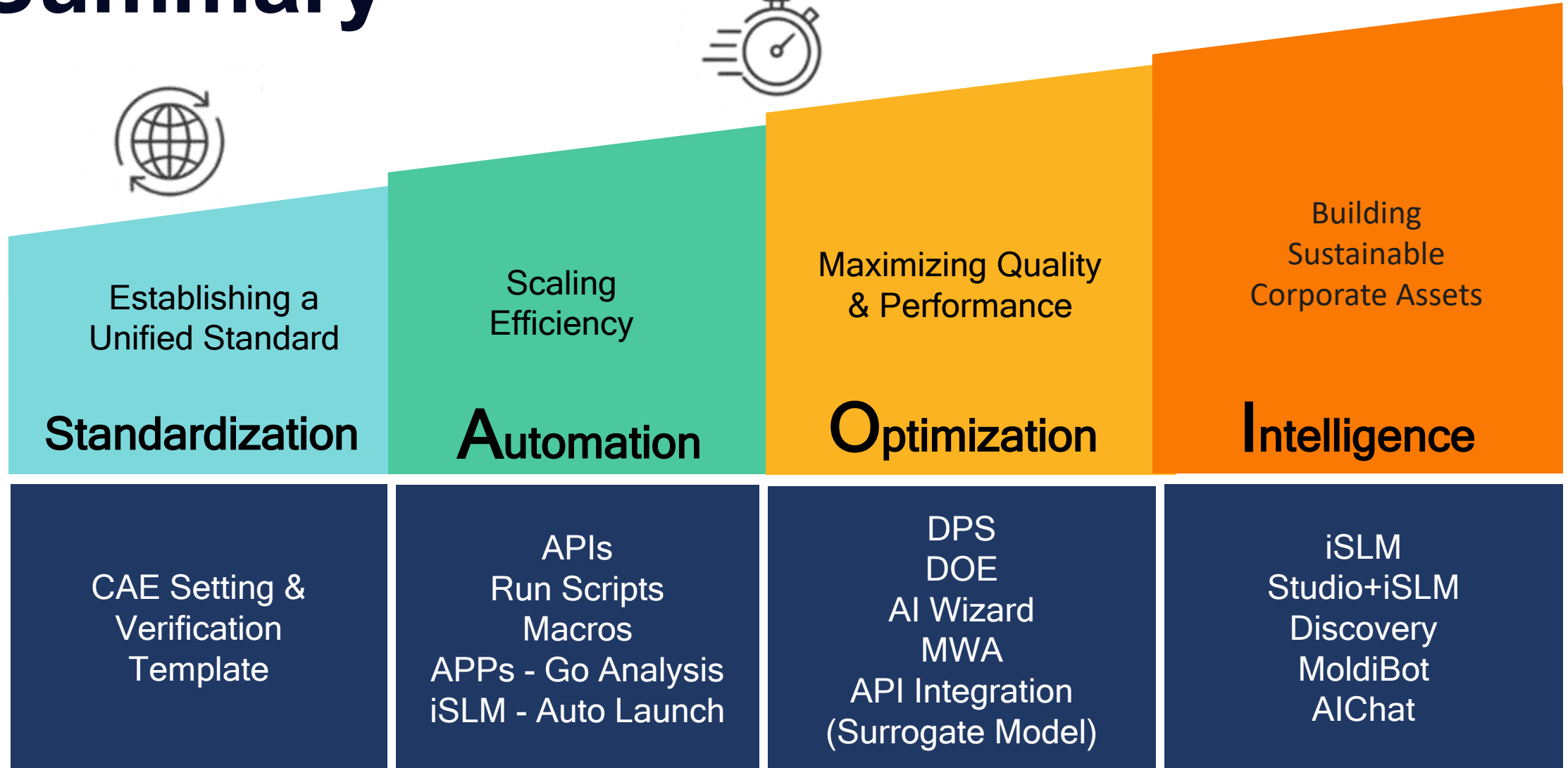
Summary



The Path to Digital Transformation: Moldex3D Solutions



Summary



Thank you

Moldex3D