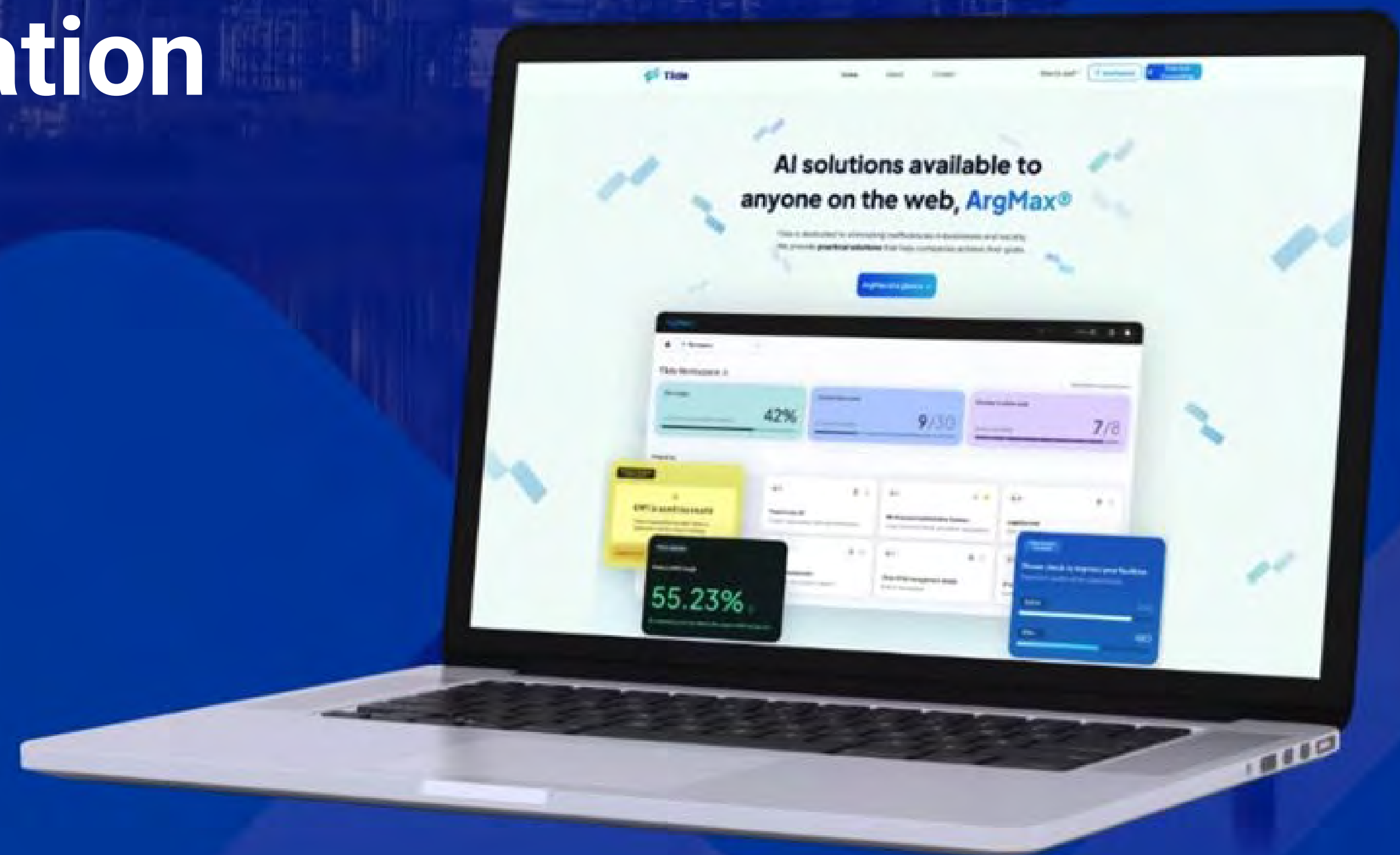


ArgMax®



Unlock the Power of AI for Manufacturing Optimization



Problems for Manufacturing Intelligentization

Costly, difficult, and deficient solution

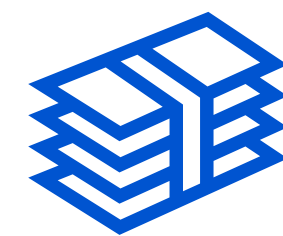


Why do we need
*Intelligent
Manufacturing?*

- ✓ Better productivity
- ✓ Better quality
- ✓ Lower cost & risk
- ✓ ESG

Market needs

AlphaGo of manufacturing
prescribing “action plans” for optimal facility control



Too Expensive

- Custom AI solutions cost \$100K-\$1M



Too Difficult

- AI knowledge or engineers required



Scarce Solution

- Very few prescriptive solution available in the market

ArgMax®



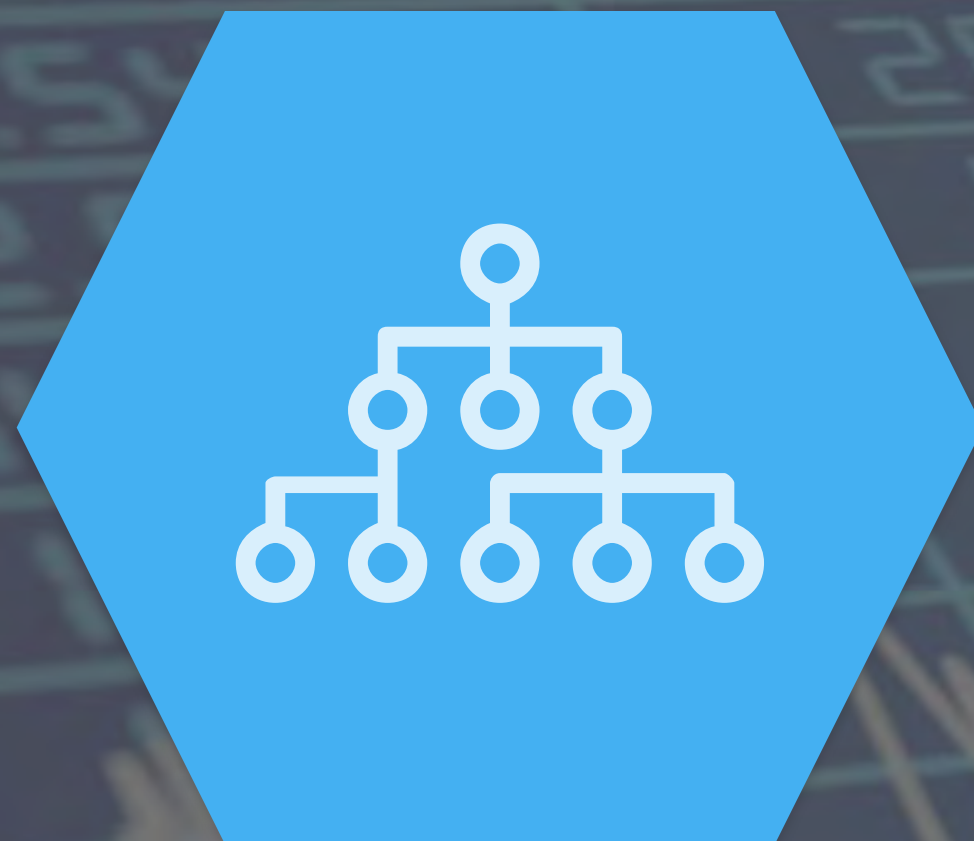
ArgMax's AI automatically analyzes data, discovers trends, and identify areas for improvement without the need for expensive AI experts

ArgMax® Algorithm

Optimal control prescription using surrogate-search models



1. Collect



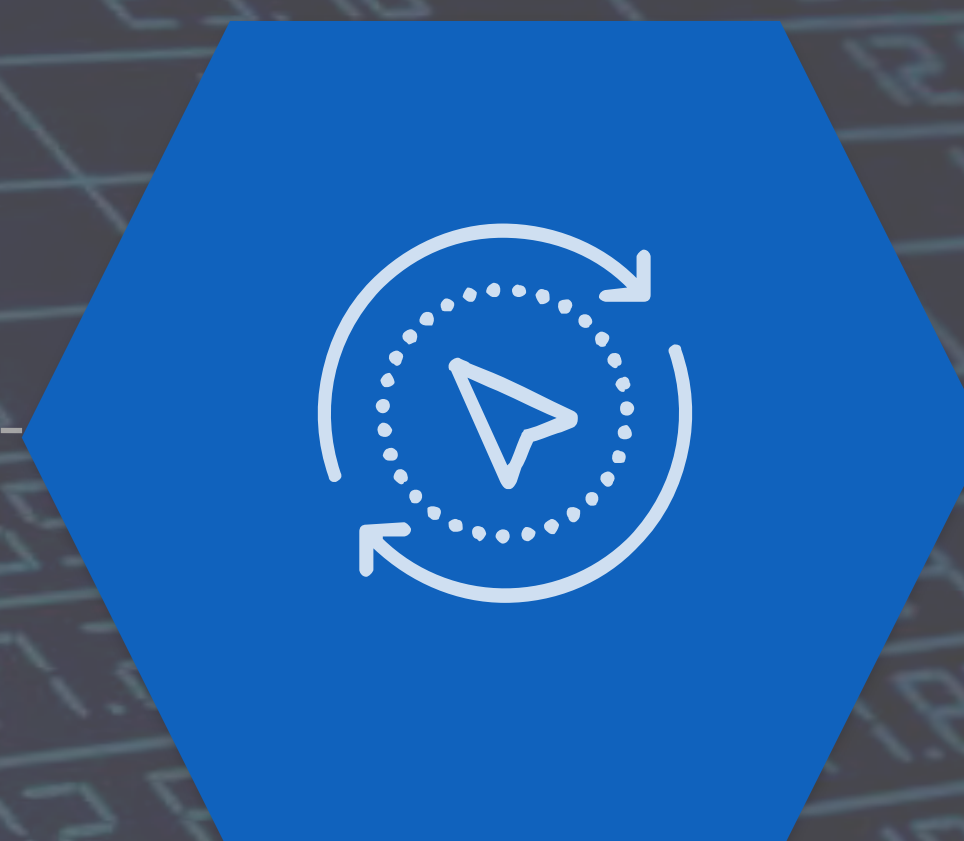
- Facility's historical operation data for AI model training

2. Model



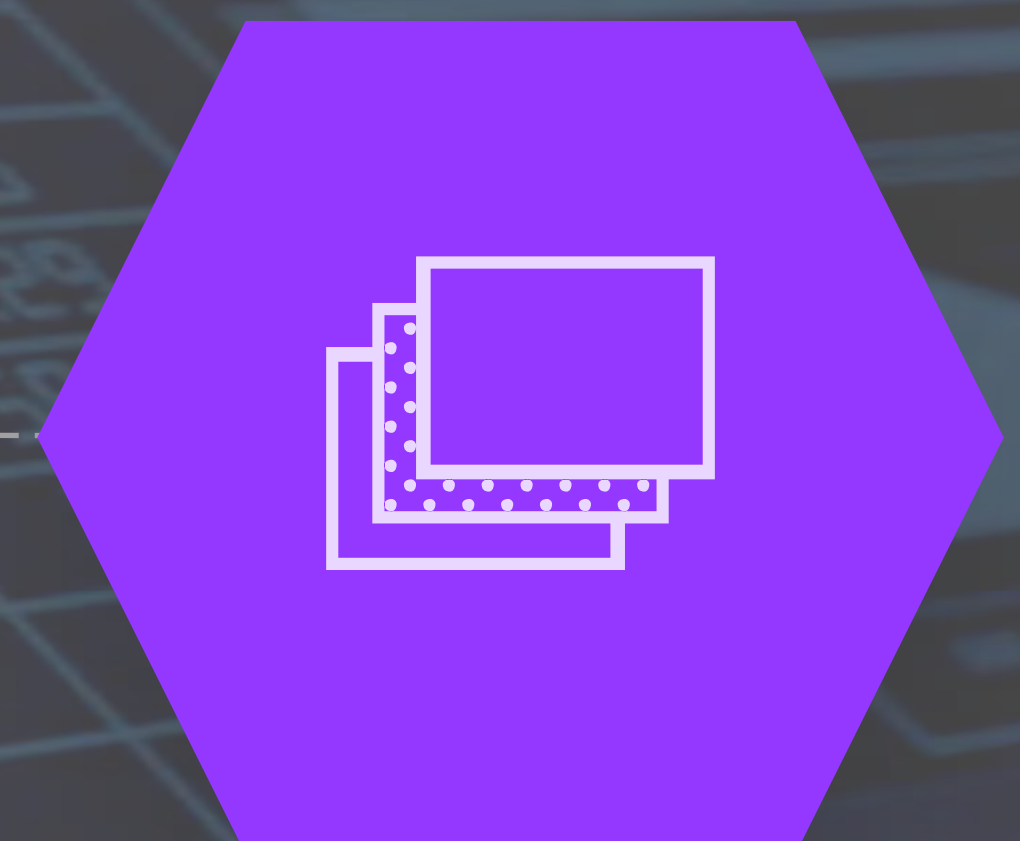
- Surrogate AI model mimicking behavior of the given facility

3. Search



- Combined with trained surrogate model, find the control values optimizing target output

4. Apply



- Apply the optimal control values to the actual facility

ArgMax® in Manufacturing & Other Industries



Manufacturing



Logistics



Healthcare



Finance



Solar System



Budgeting



ArgMax® Success Cases

Real-time equipment control and work standards optimizations



Pulp Refiner Energy Optimization

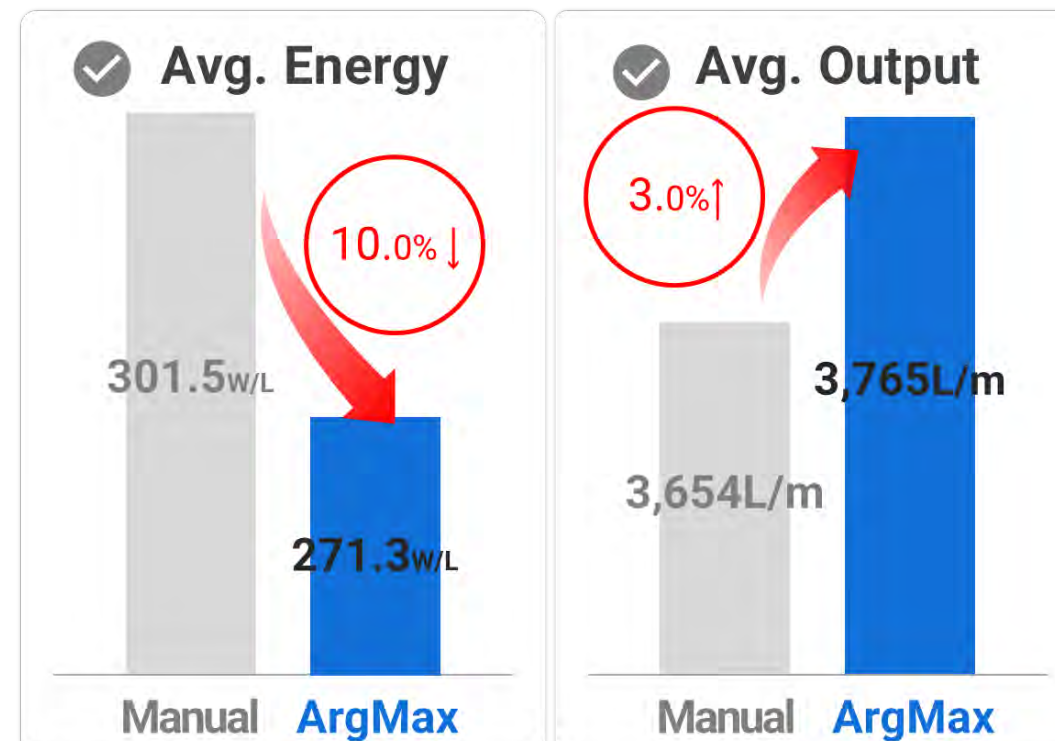


Hansol
한솔제지

- To reduce electricity used by multiple pulp refiners in paper manufacturing
- Actual test result applied to the factory facility

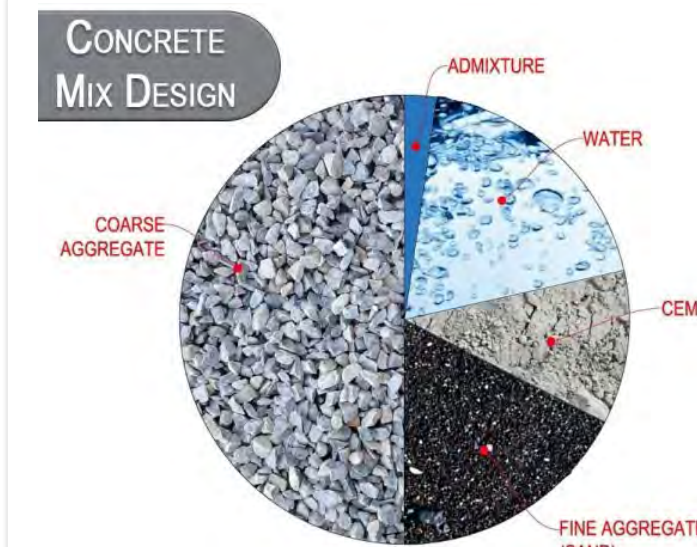
ArgMax Actual Test Results

Electricity used	10.0% ↓
Output	3.0% ↑



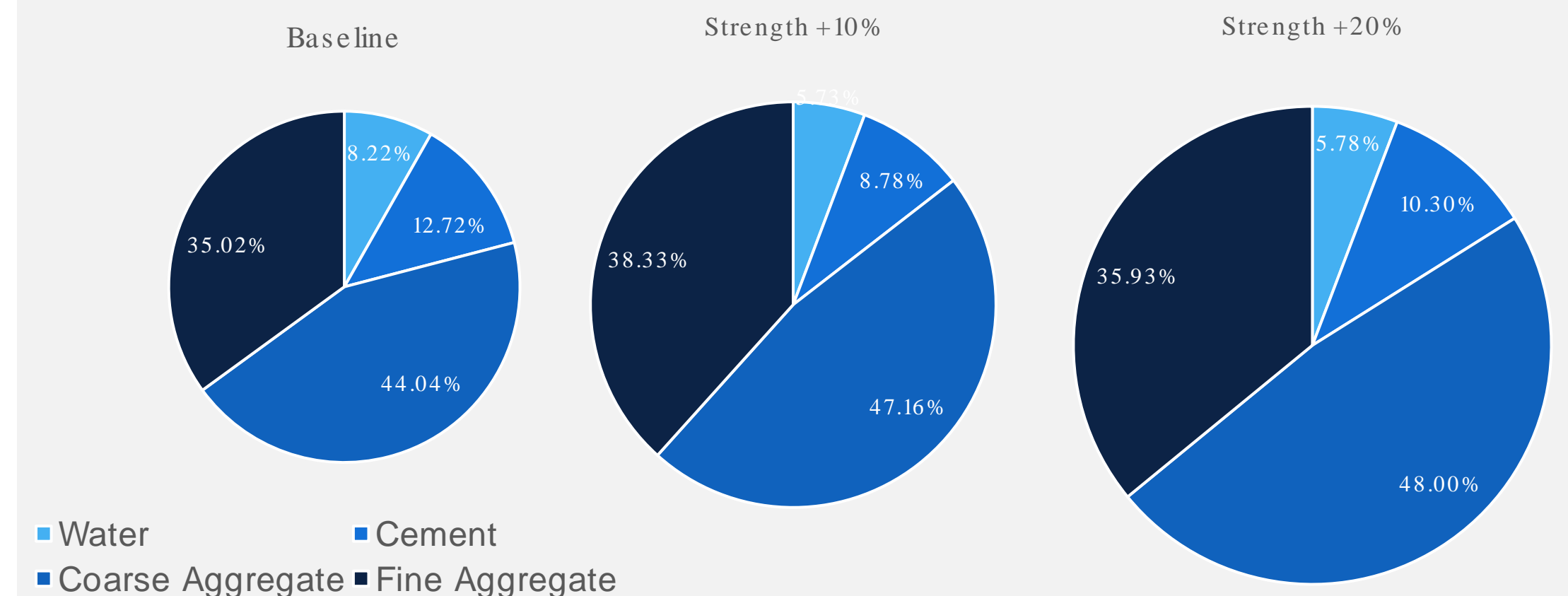
Concrete Strength Optimization

kaggle



- To find concrete recipe to increase strength with the the amount of cement, water, coarse & fine aggregate as variables
- ArgMax SaaS proved to work with this Kaggle open data

ArgMax Simulation Result



ArgMax® Success Cases

Real-time equipment control and work standards optimizations



Steel Rod Quality Optimization

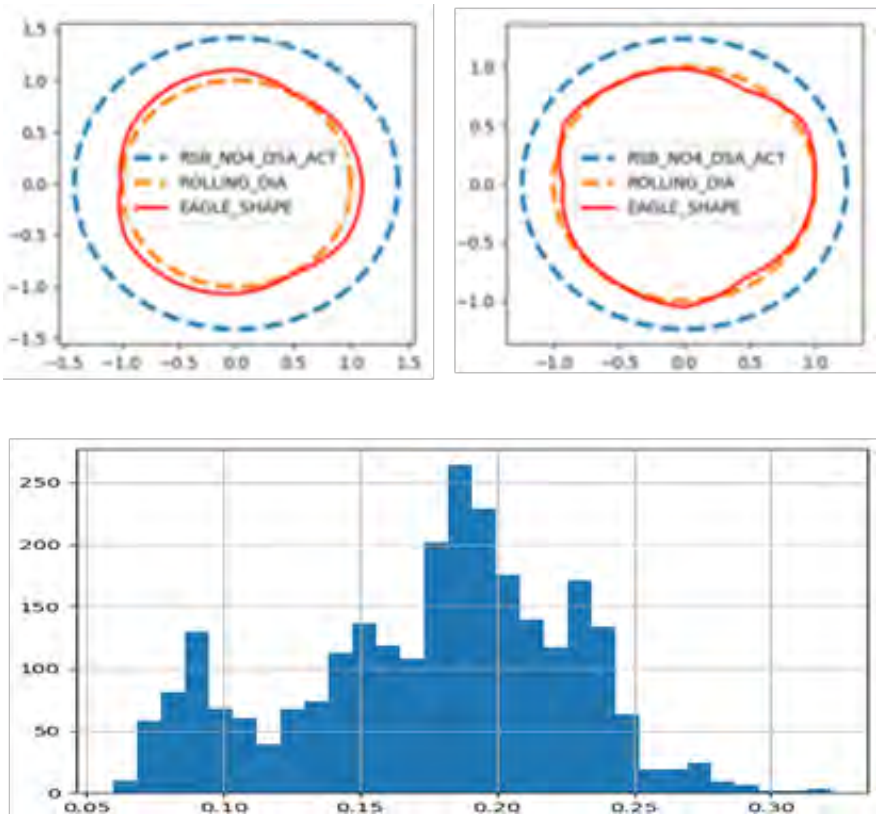


SēAH

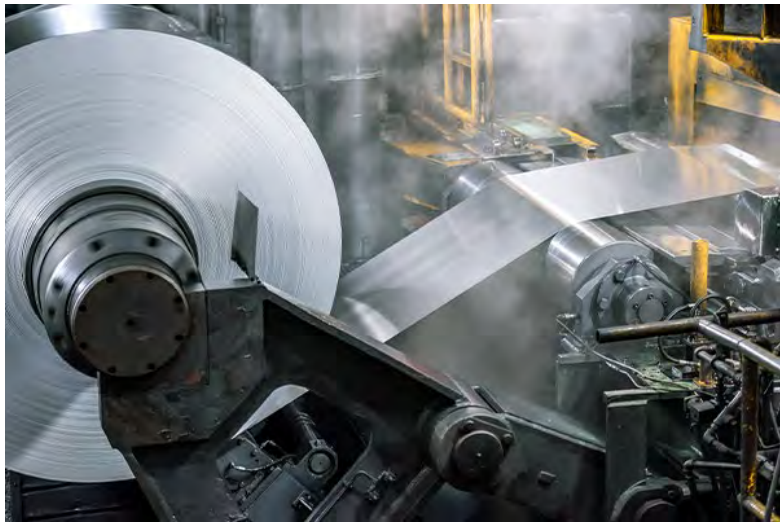
- Rolling mill operation (tension, speed, etc.) optimization for special steel rod products

ArgMax Actual Test Result

Rod ovality (roundness error)	26.67% ↓
----------------------------------	----------



Aluminum Foil Quality Optimization

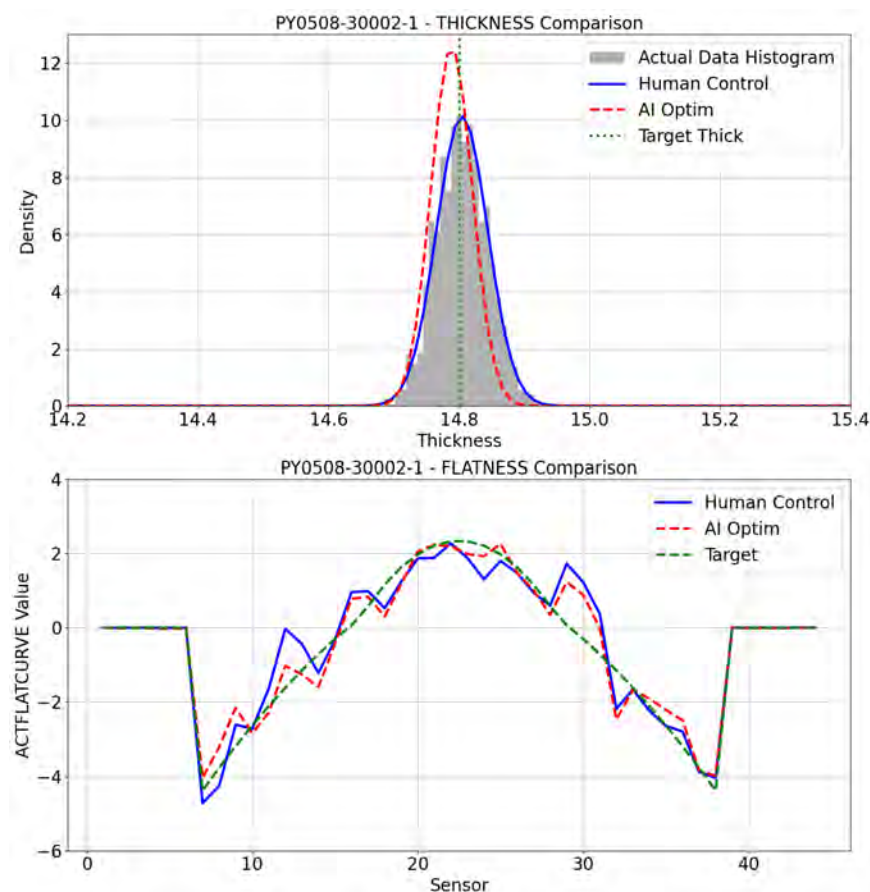


SAMA

- Work standard optimization to improve aluminum foil quality

ArgMax Actual Test Result

Work standard range	60% ↓
Thickness error	as-is
Flatness error	3% ↓

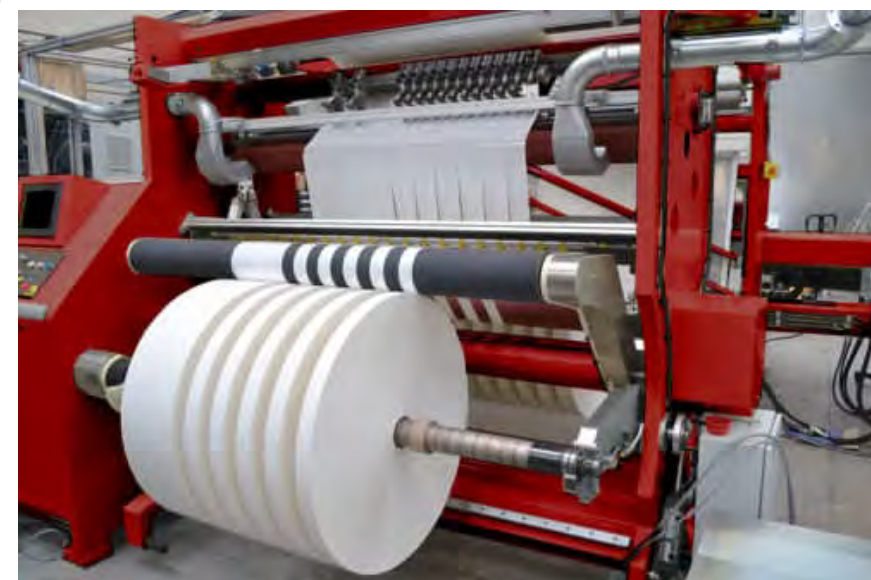


ArgMax® Success Cases

Process & scheduling optimizations



Slitter Throughput Optimization

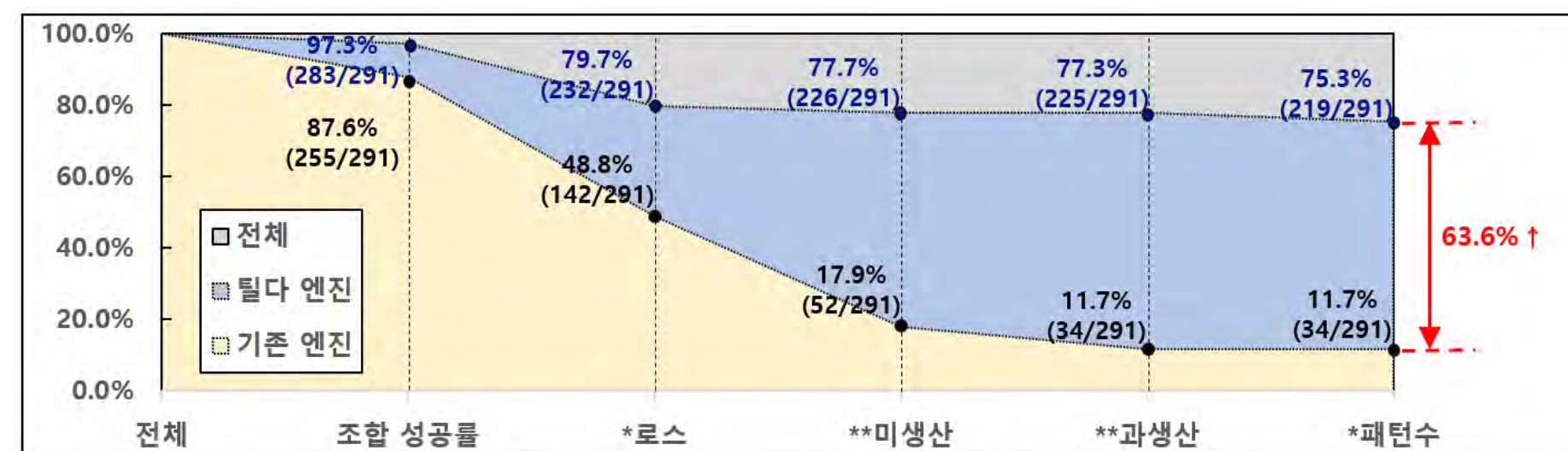


Hansol
한솔제지

- Order allocation optimization to reduce facility interruption rate and trim loss

ArgMax Actual Test Result

Interruption rate	29.4% ↓
Trim loss	23.4% ↓
Over & underproduction	100% ↓



Commodity Purchase Optimization

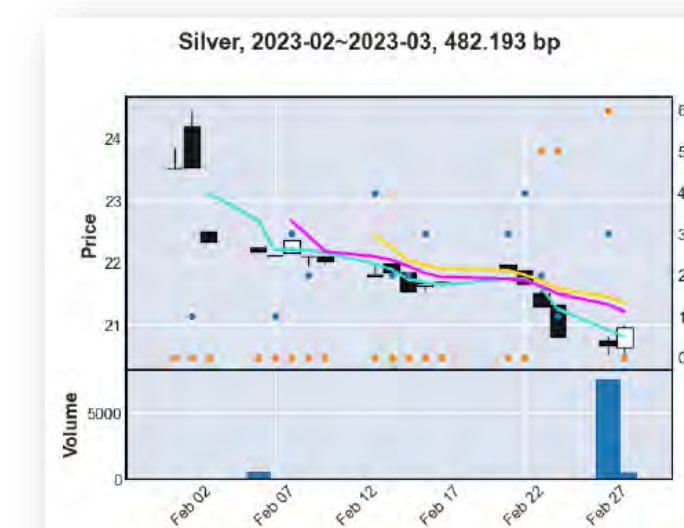
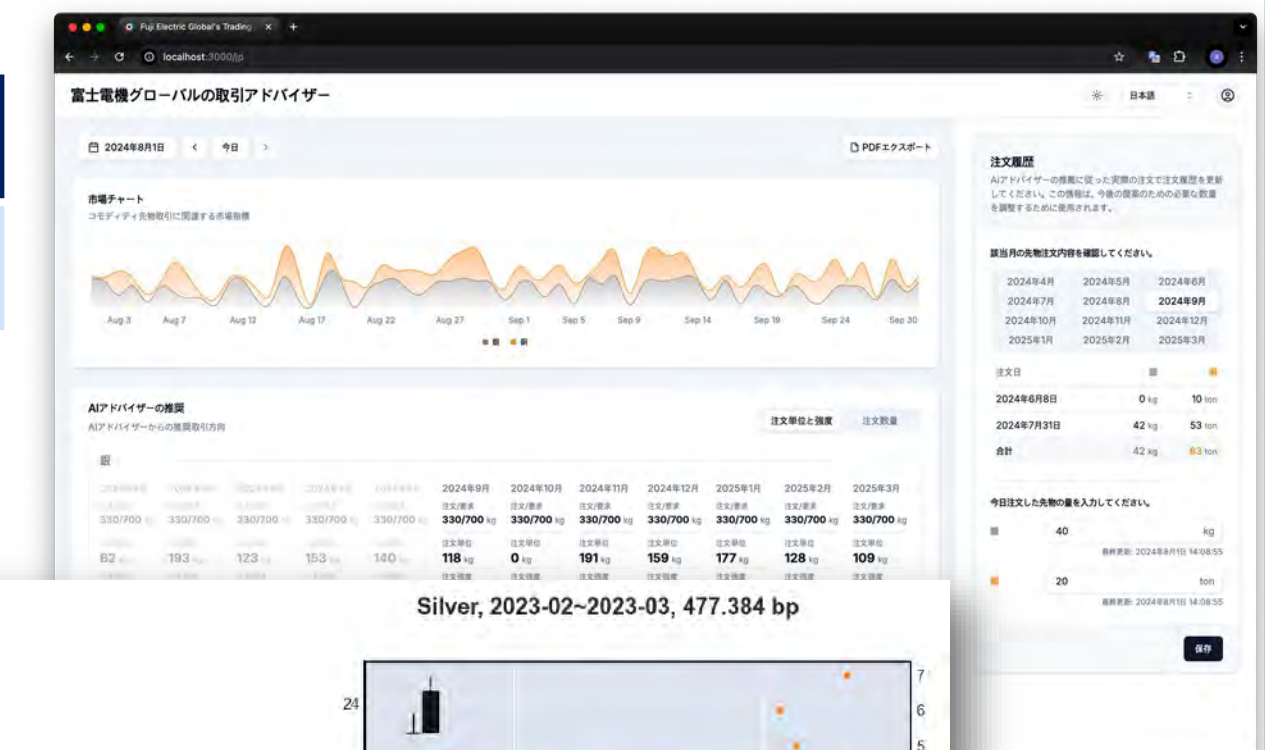


Fuji Electric
Innovating Energy Technology

- Ag & Cu purchase plan optimization to reduce cost

ArgMax Simulation Result

Performance 2.5% ↑



ArgMax® Success Cases

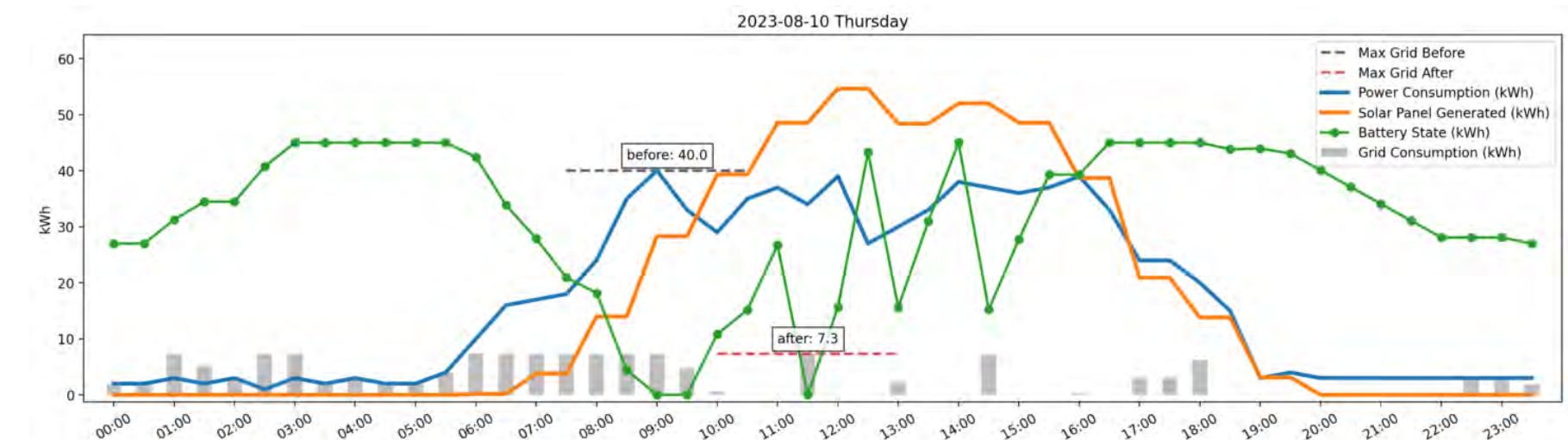
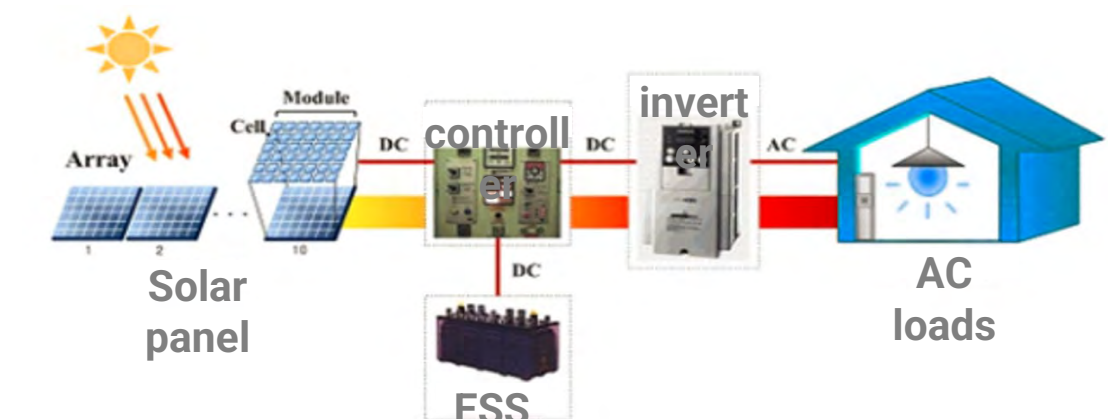
Optimal quotation & operation of self-consumption solar system



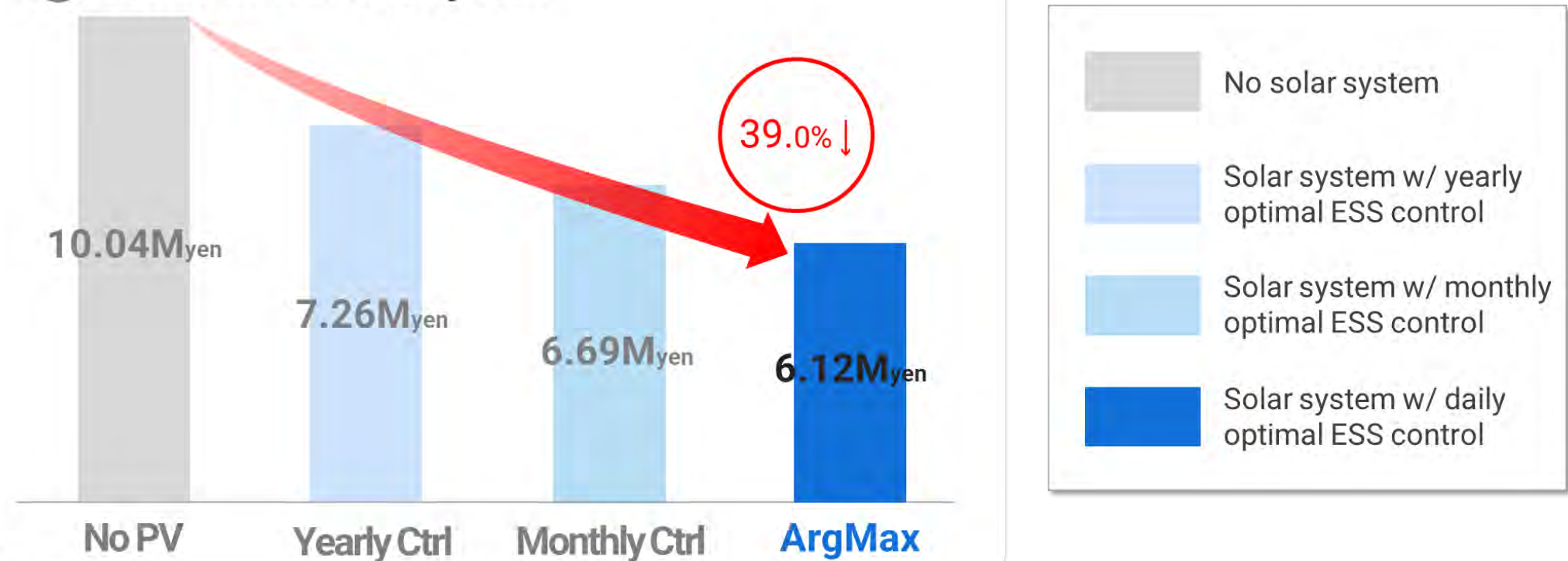
SolarSystemPlan&Control Optimization



- Japanese solar PV system market is changing from electricity sales to self-consumption purpose
- Consumer companies need the minimal system with optimal operations to reduce setup cost and electricity expenses
- EPCs require rapid quotes that they can present to their customers with clear and understandable justifications



Annual electricity bill



Growth Plan

Sales projection with region-wise & domain-wise SaaS expansion



Customer Feedback

“Not just a solution provider, but we want Tilda to be a business partner for our digital transformation.”

Custom
SaaS

\$230K

2021

\$230K

2022

\$500K

2023

\$1.2M

2024

\$7.7M

2025

\$14M

2026

2027



AI Championship (3rd)

Bigdata Startup (1st)

AI Testbed Korea (2nd)

Startup Solution Platform (2nd)

Best Startup (Woori bank)

Best Startup (D-Camp, June)

Team Tilda



Ji-Ryang Chung, CEO

Work experience

- **Tilda Corp.** (2021-), Founder & CEO
- **Minds&Company** (2019-2020), AI adoption consulting firm, Partner
- **Samsung Mobile** (2011-2018), Principal engineer & Part leader

Education

- **Texas A&M University** (2004-2011), Computer Science (AI), PhD
- **Seoul National University** (1995-2004), Computer Science, BS

Team Leaders

Sang Hyun Lee

SaaS ML Team



Experience

Manager @ Minds&Company

Min Jun Kim

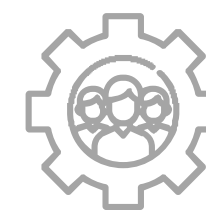
PoC/Production ML Team



Experience

Engineer @ NotaAI

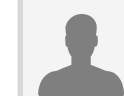
Members



20



Engineers - 17



Backoffice - 2

Global Sales (JPN) - 1

Investors

우리벤처파트너스

KDIT 신용보증기금
KOREA CREDIT GUARANTEE FUND

bluepoint

d·camp

한국사회투자
KOREA SOCIAL INVESTMENT FOUNDATION

Hansol
한솔PNS

Collaborators, Advisors

IBK창공
創工

Shinhan
S²BRIDGE

Digital Innovation
DINNOlab

KDB NextONE

TAM

UNIVERSITY OF
MICHIGAN

서울창조경제혁신센터
Seoul Center for Creative Economy & Innovation

부산창조경제혁신센터
Busan Center for Creative Economy & Innovation

대구창조경제혁신센터
Daegu Center for Creative Economy & Innovation



The Team: who we are, what we do!
**We maximize efficiency, to impact
both our future and society's**

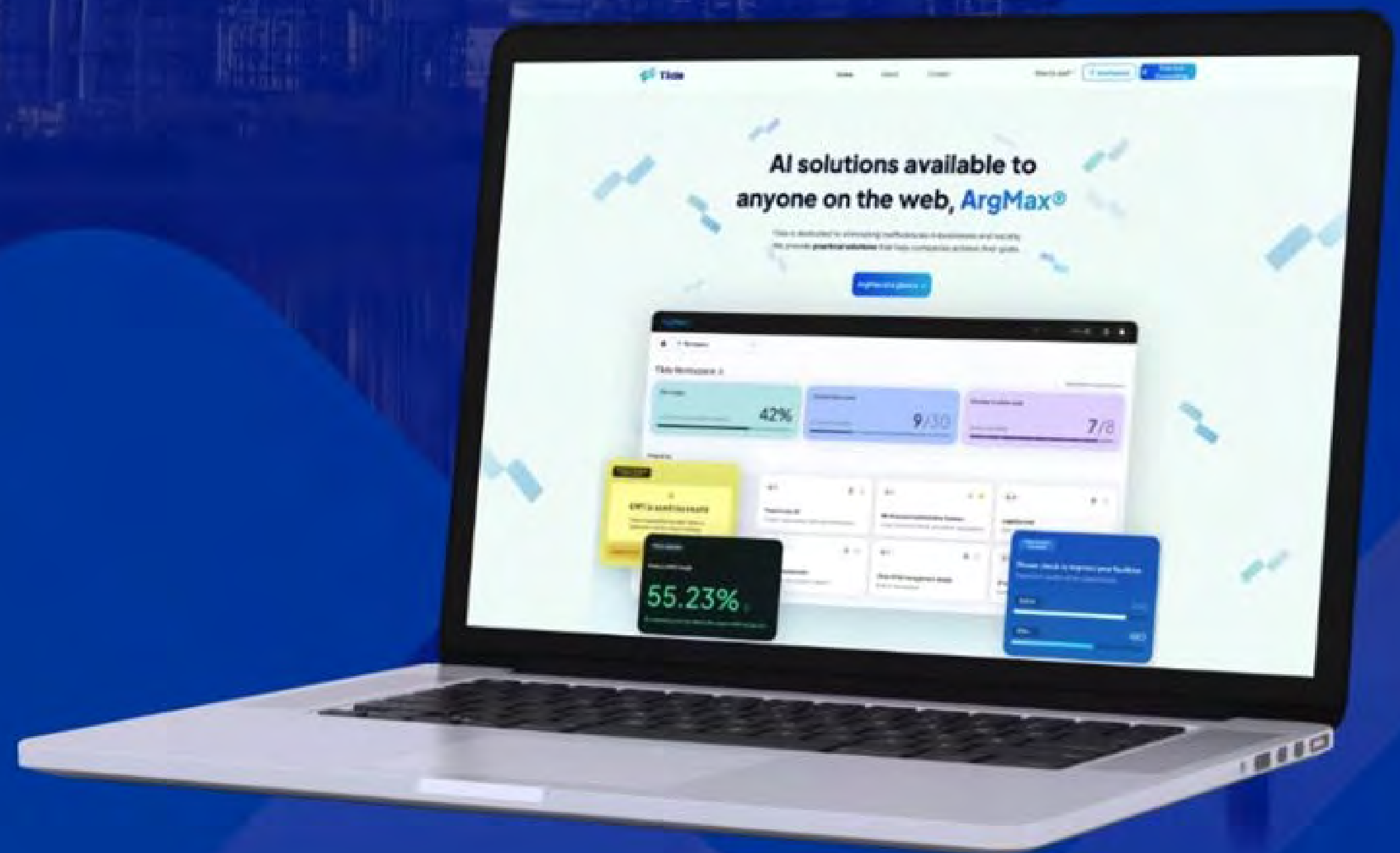


<https://www.tilda.co.kr>

jr.chung@tilda.co.kr



jr.chung@tilda.co.kr
<https://www.tilda.co.kr>



Copyright by TILDA. 2024. All Rights Reserved.

No part of this publication may be circulated, quoted, or reproduced for distribution outside the client organization without prior written approval.