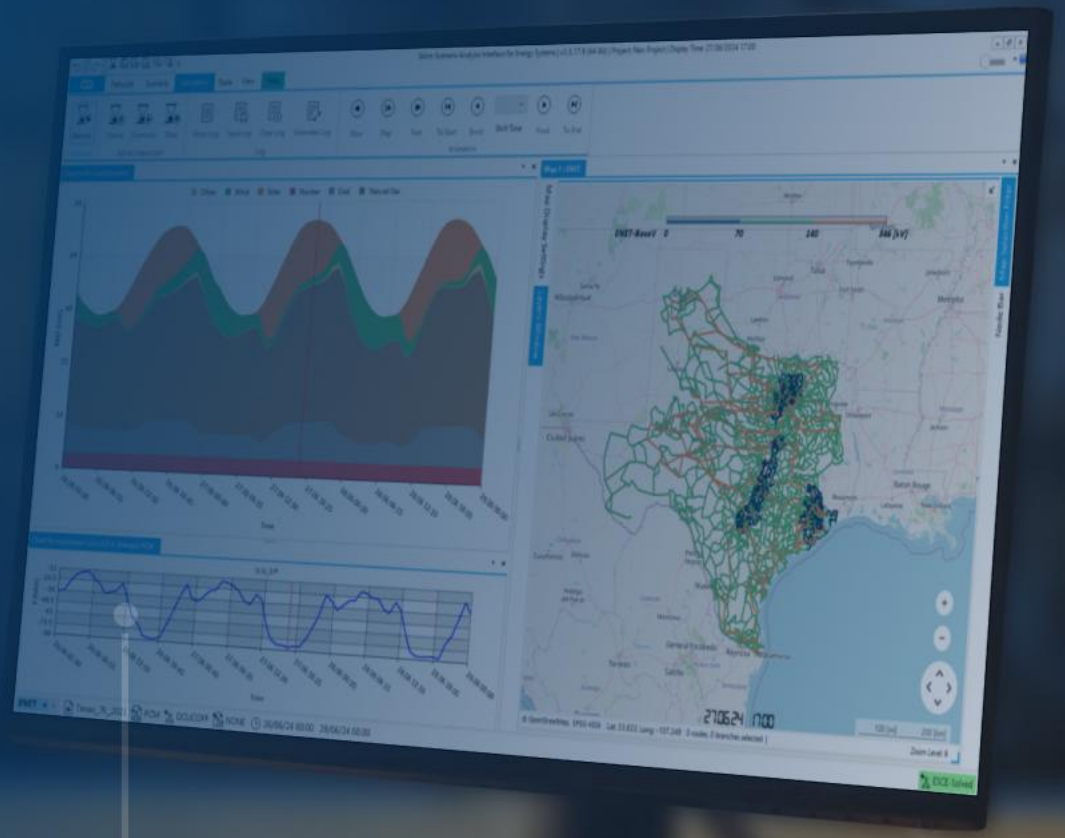
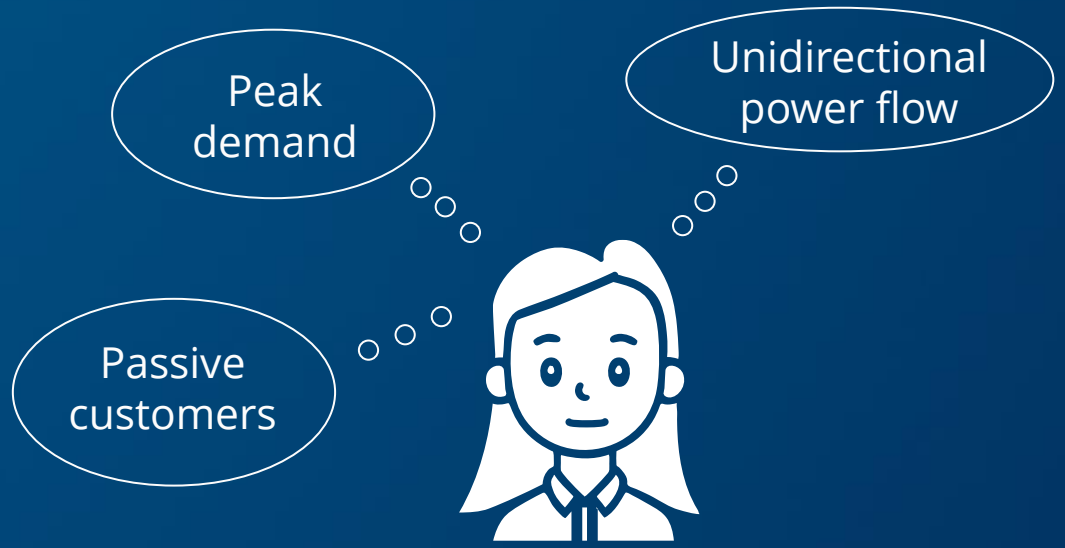
encoord
Plan the Energy Future

Planning for DERs and the Benefits of an Integrated Approach

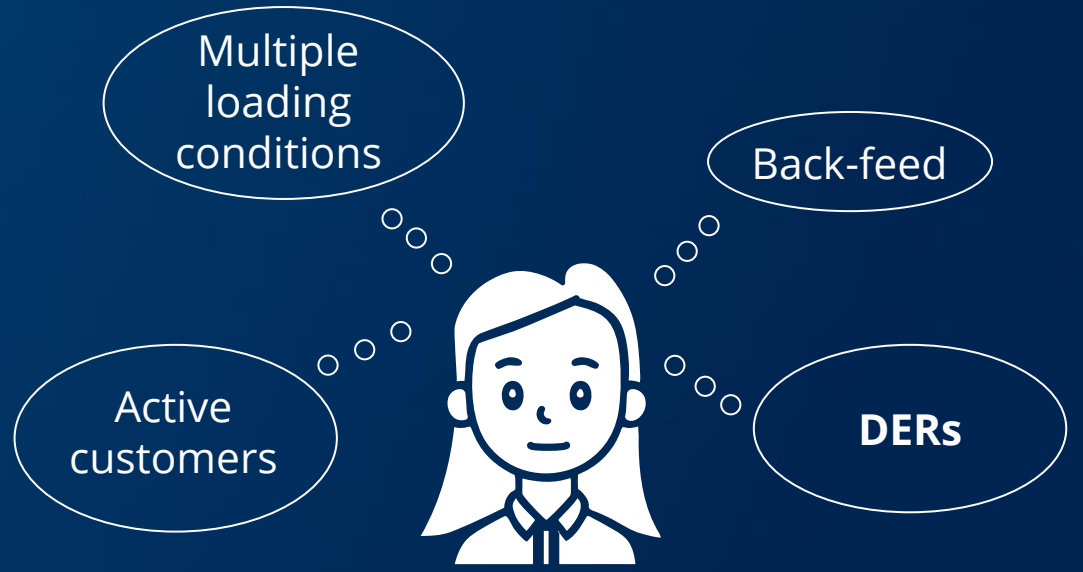


October 2025

Distribution planning is getting harder

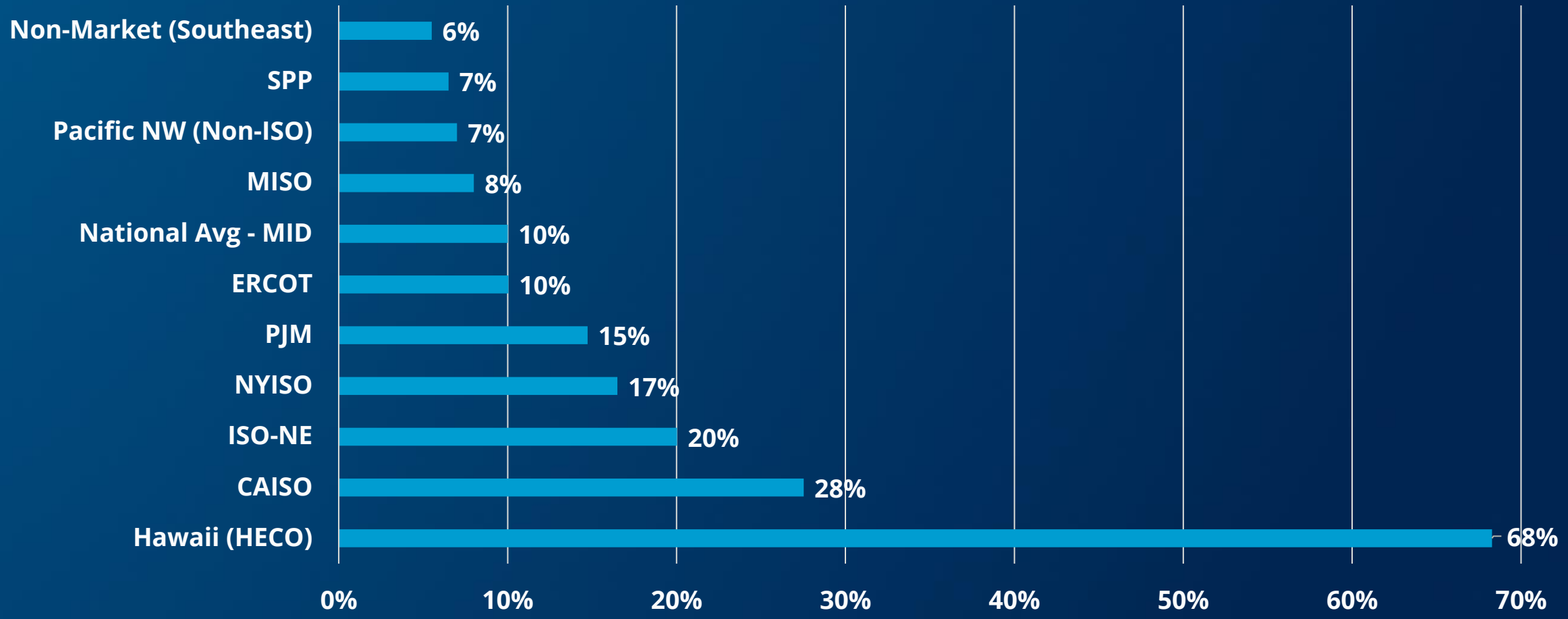


Distribution Planner in 2000



Distribution Planner in 2025

DER Penetration* (% of peak demand)



*based on encoord's market research

DERs have system-wide impacts

Will DERs impact load shape?

Do DERs contribute to resource adequacy?

Generation / Resource Planner

How will DERs respond to electricity prices?

Will DERs impact upstream voltage profiles

Will DERs ride-though?

How do DERs impact load distributions across varying operational conditions

Transmission Planner

As the grid transforms, integrated planning is key to delivering reliable, affordable power under increasingly complex conditions

Planners are challenged by traditional processes and tools

- Built for a different era
- Plan for generation, transmission, and distribution in silos
- Use incompatible data/assumptions, and tools are not interoperable

Integrated planning processes and tools can solve these challenges

- Plan for a modern, complex grid
- Coordinate across planning domains
- Assess the system through a unified platform

An integrated DER planning workflow with SAInt

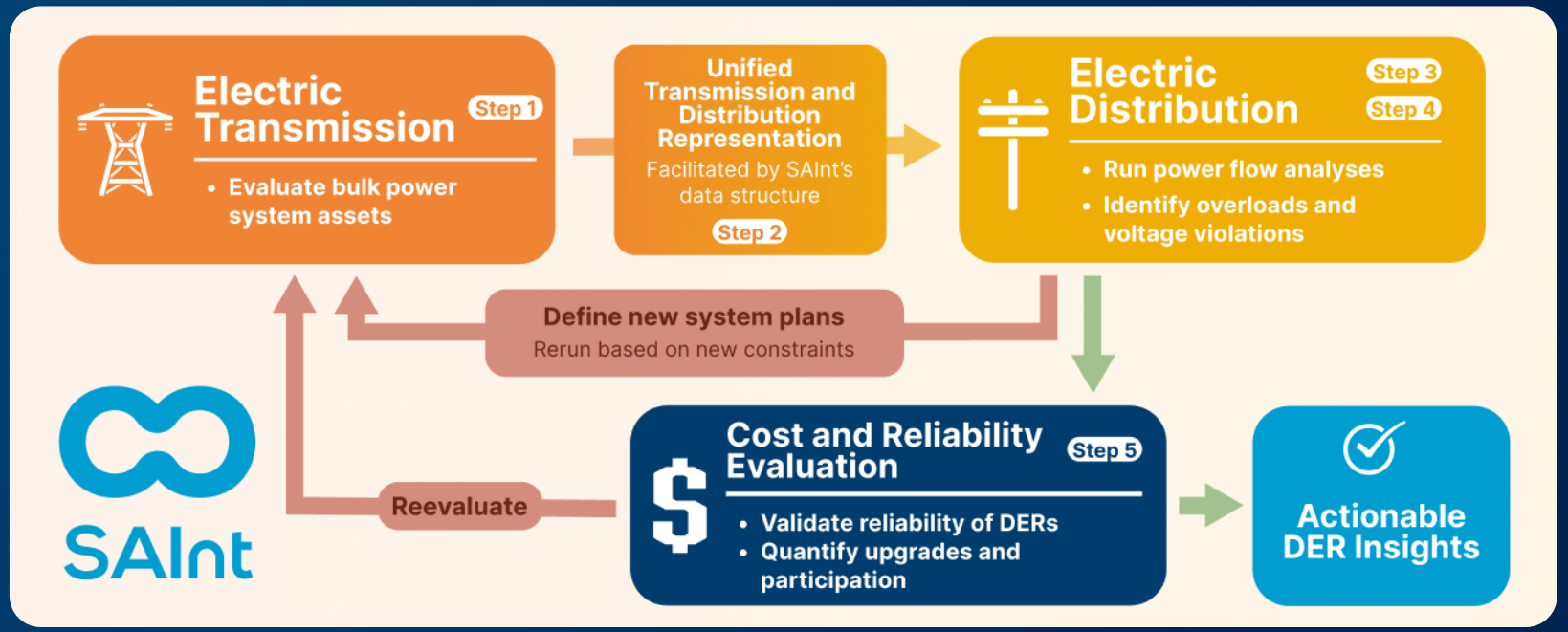
Step 1: Model the transmission system

Step 2: Visualize transmission and distribution systems in a single unified model

Step 3: Assess combined transmission/distribution reliability

Step 4: Jointly optimize system and DER operations

Step 5: Compare costs and reliability across DER strategies



The Value

- **Discover new, realistic DER dispatches**
- **Understand DER behavior and impact across conditions**
- **Prioritize high value investments**

Proof-of-concept: Unified Transmission-Distribution Modeling of VPPs for Grid Reliability Studies and Grid-Edge Flexibility

VERMONT ELECTRIC CO-OP INC

vermont electric power company VELCO

ELEVATE ENERGY CONSULTING

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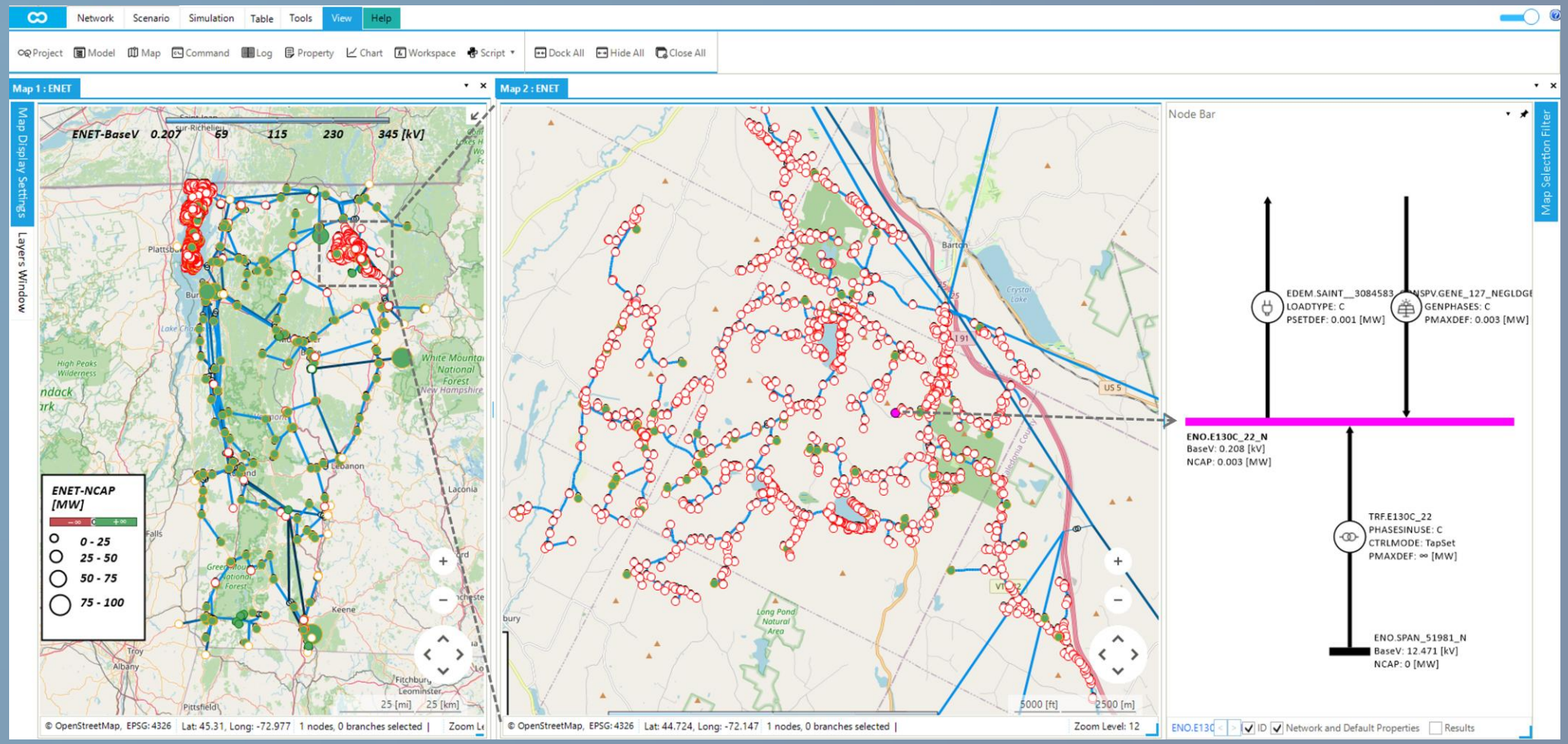
SAInt by encoord



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