SCML 2025 Report

2025/08

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Introducing SCML

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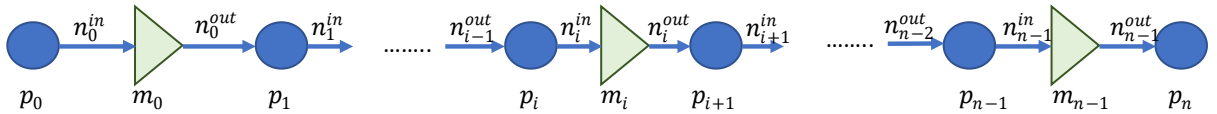
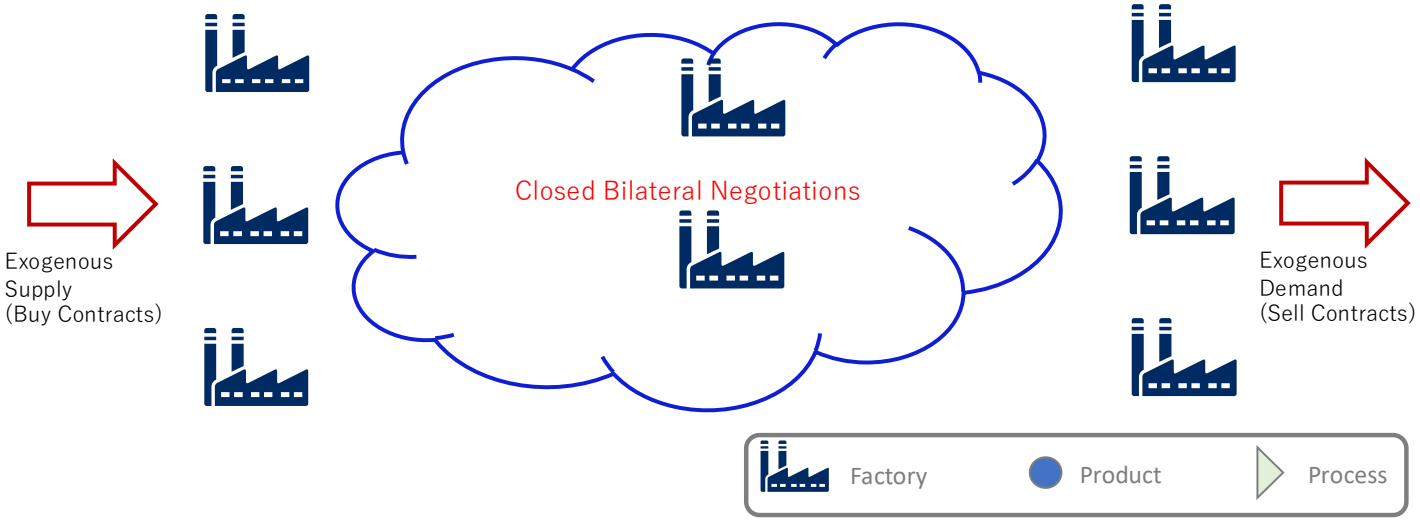
What is SCML

- Goal: move automated negotiation research further toward the real world

- Guiding Principles:
  - Simple enough but not too simple
  - Continuity matters

- Domain:
  - Situated concurrent negotiation within a market → OneShot
  - Repeated sequential concurrent negotiation within a market → Standard





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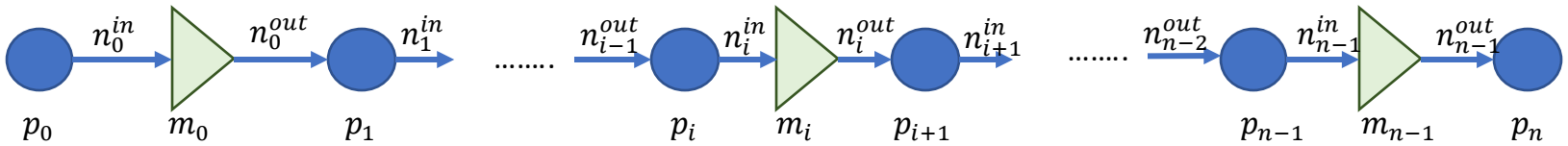
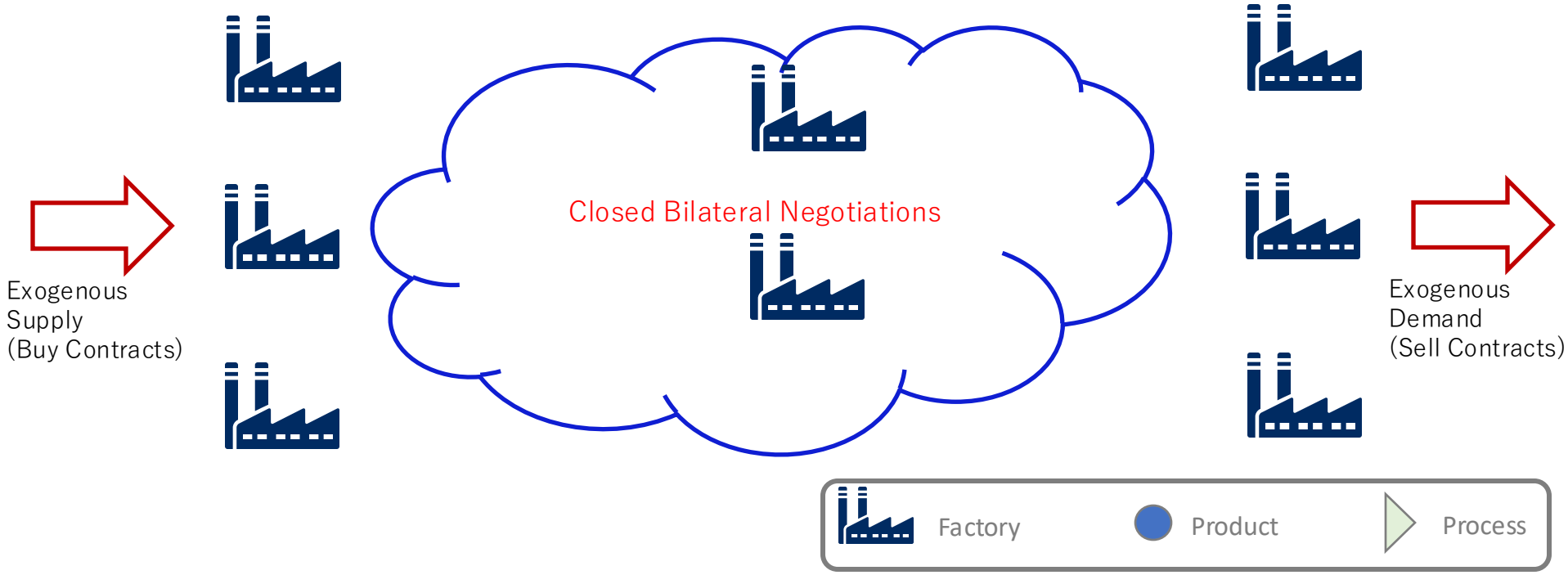
What is SCML





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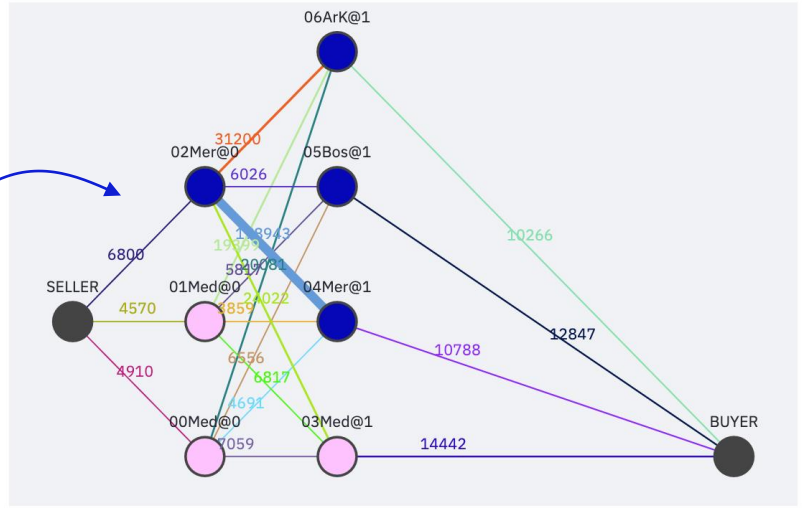
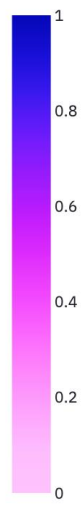
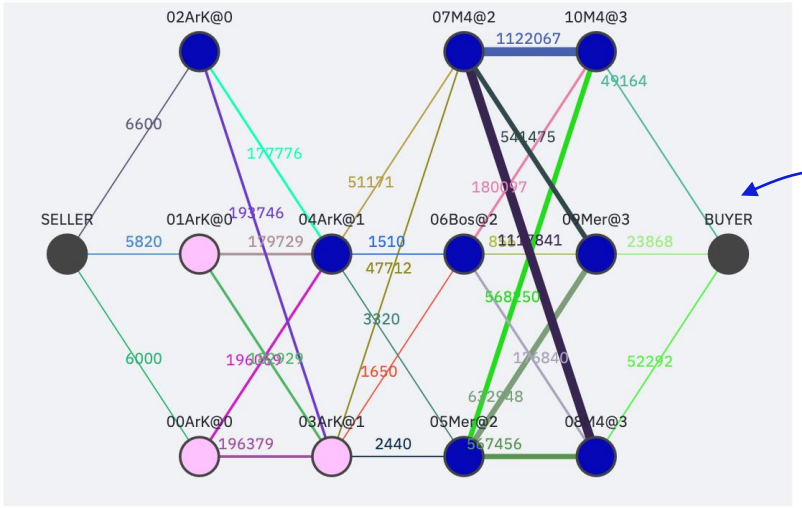
What is SCML

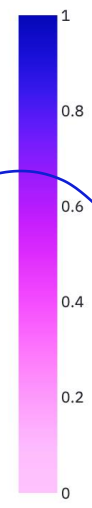
oneshot



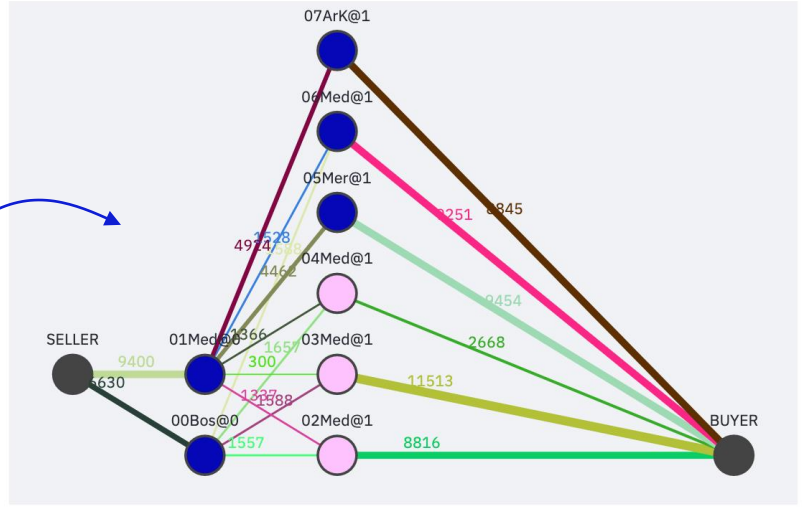


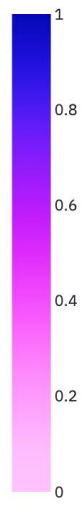
deep

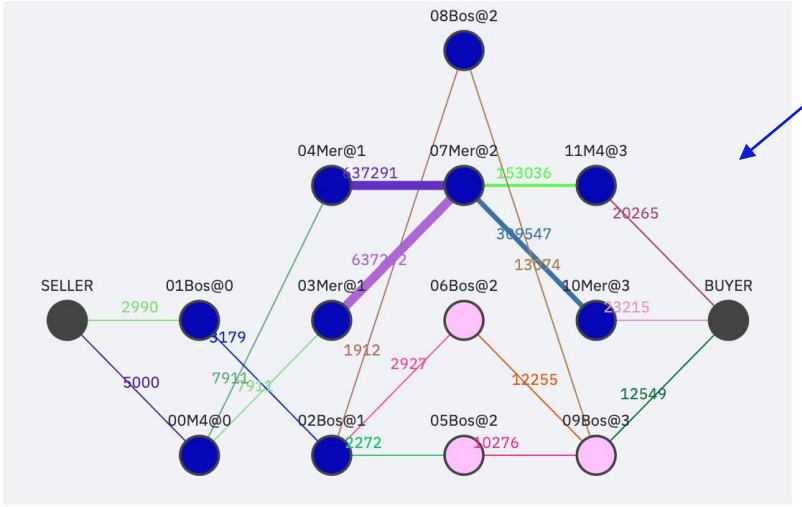


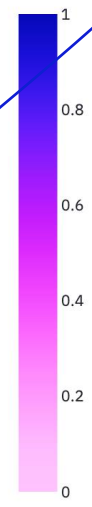


bottleneck









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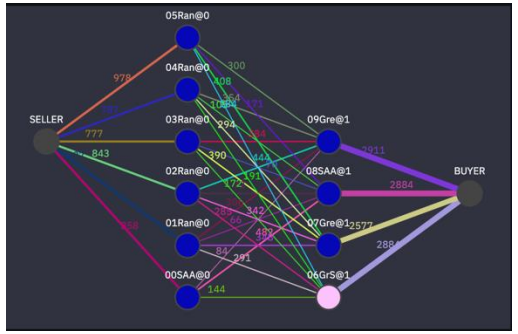
The two tracks

OneShot

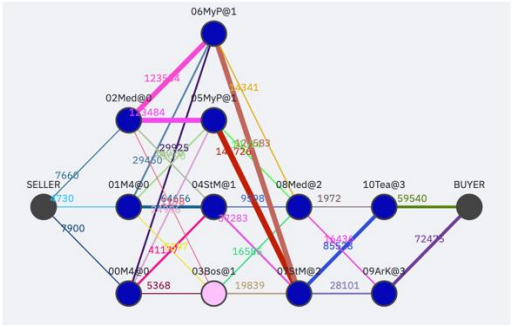


- Delivery is always today
- N. intermediate products: 1
- Perishable Products
- Tiny Price Range
- Small Quantity Range

- Profit is defined per step.
  - A greedy ufun is known

- Concurrent Negotiation
  - ~~Long term planning~~

Standard



- Delivery time is negotiable
- N. Intermediat products: 3
- Accomulated Inventory
- Large Price Range
- Large Quantity Range

- Profit is known only ex-post
  - No greedy ufun

- Long term Planning
  - Concurrent negotiation

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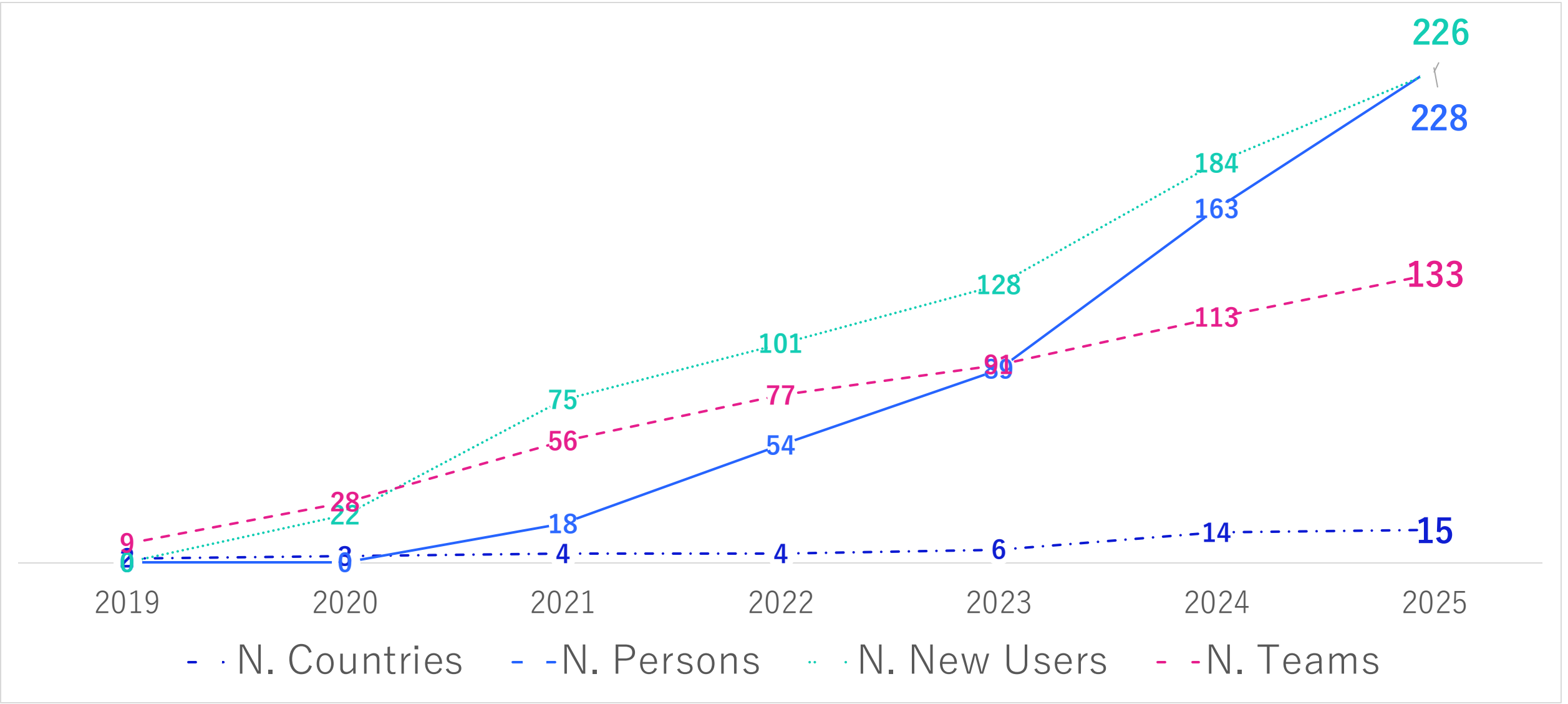
SCML Growth



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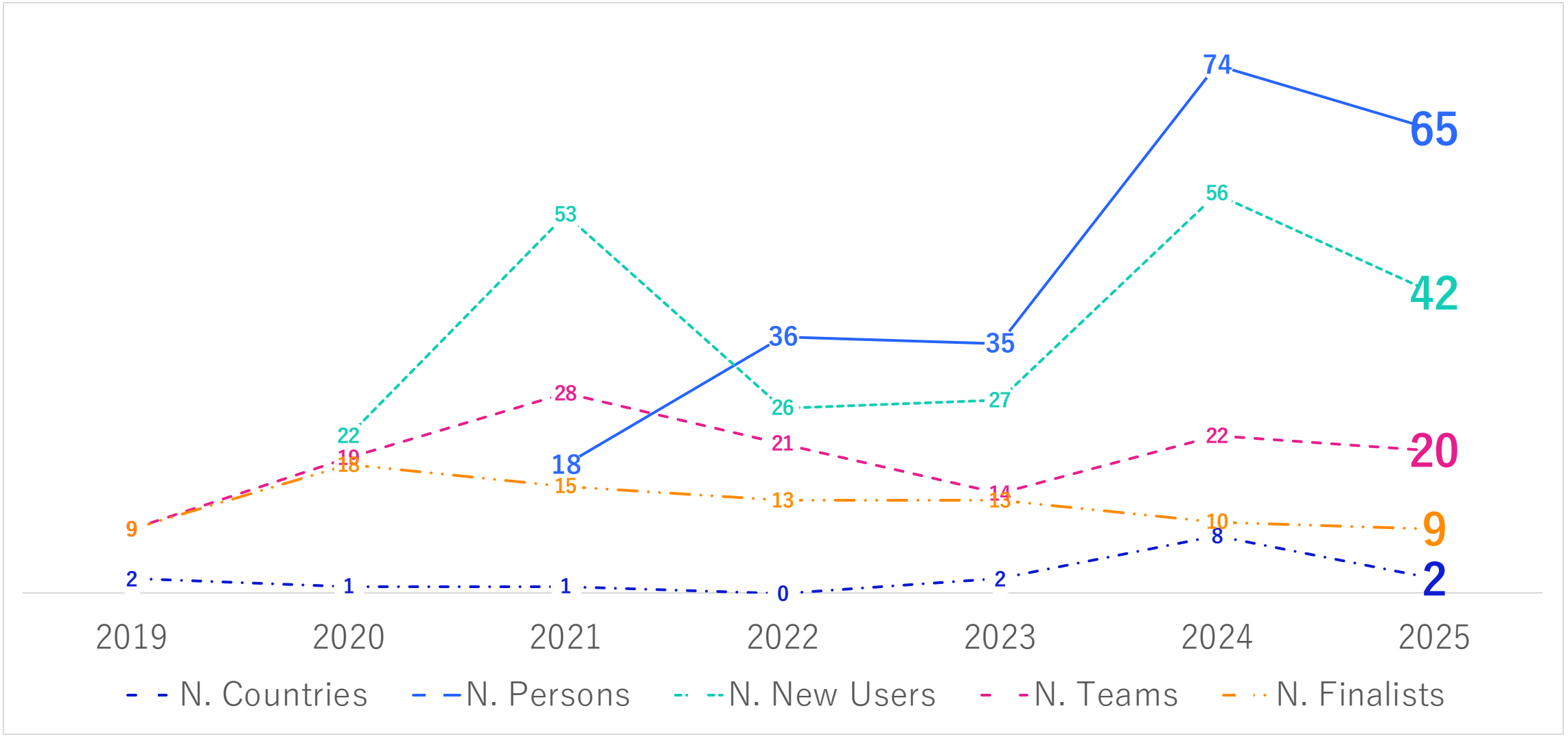
SCML Growth



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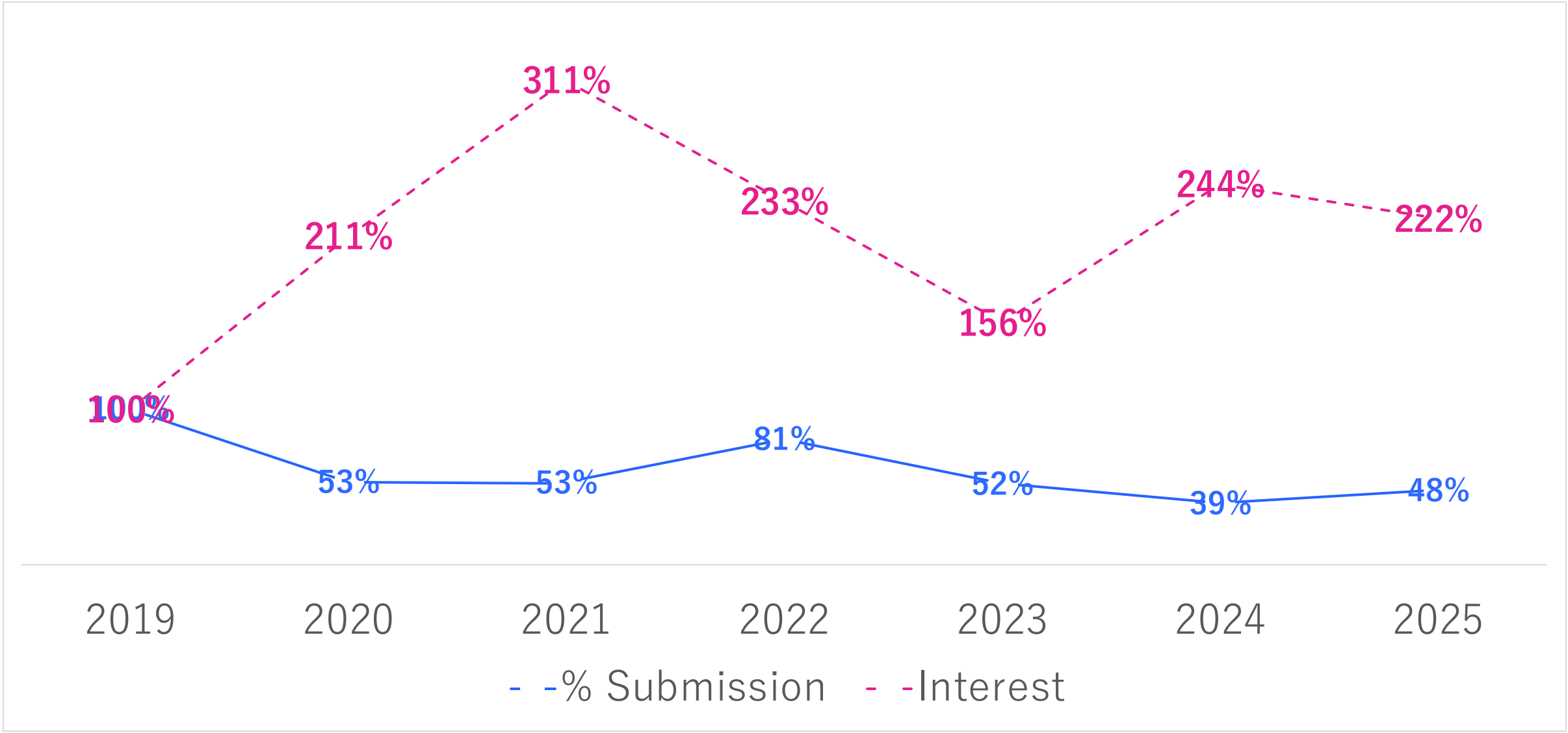
Estimat of Interest



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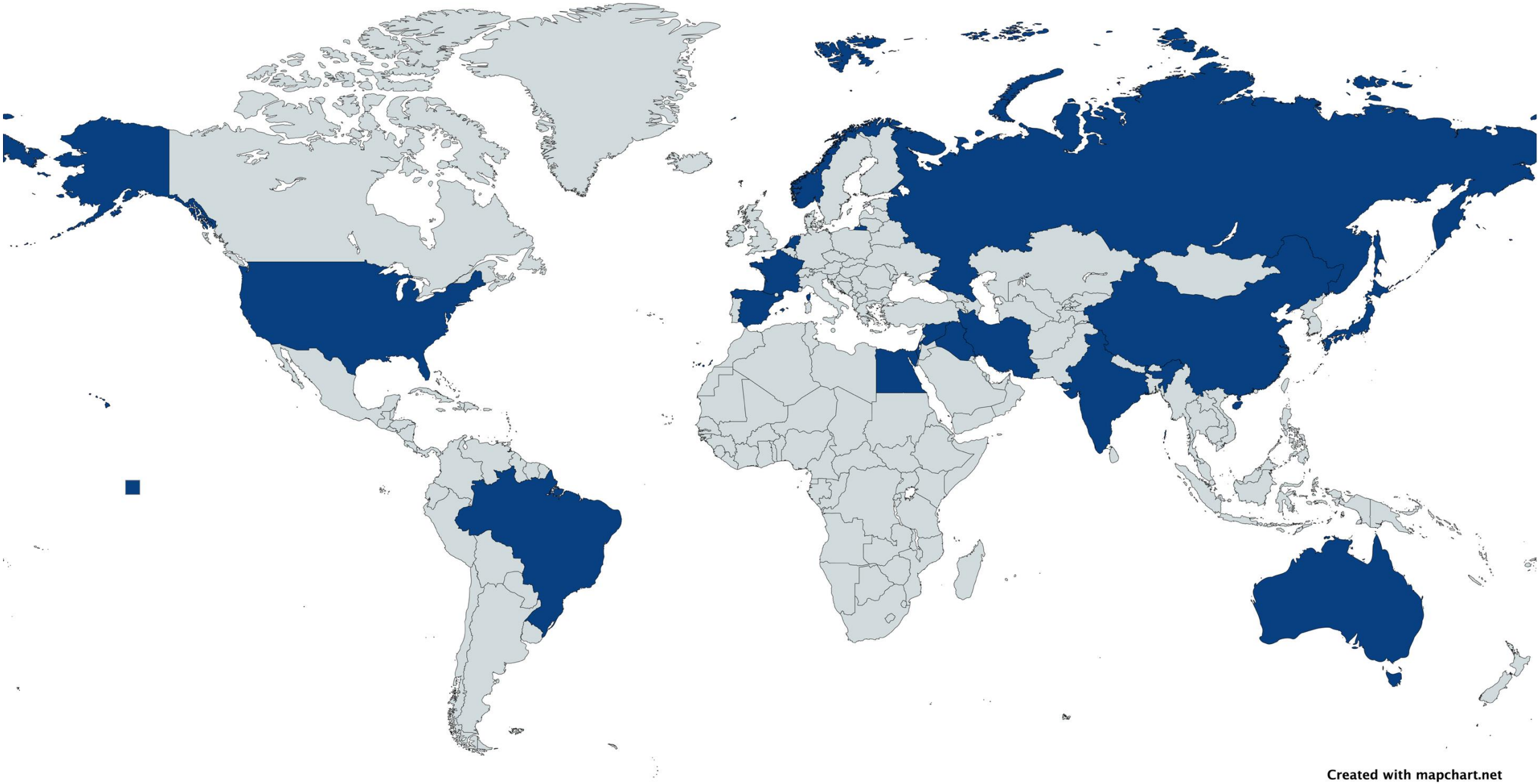

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How did we run SCML?

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Competition Mechanics

Online Competition

- Allows participants to experiment with their agents

Official Submission

- Participants can decide NOT to participate in the official competition

Qualification Check

- Disqualifies submissions breaking ANAC/SCML rules

Qualifications

- Between qualified agents
- Decides finalists

Finals

- Between finalists
- Decides winners

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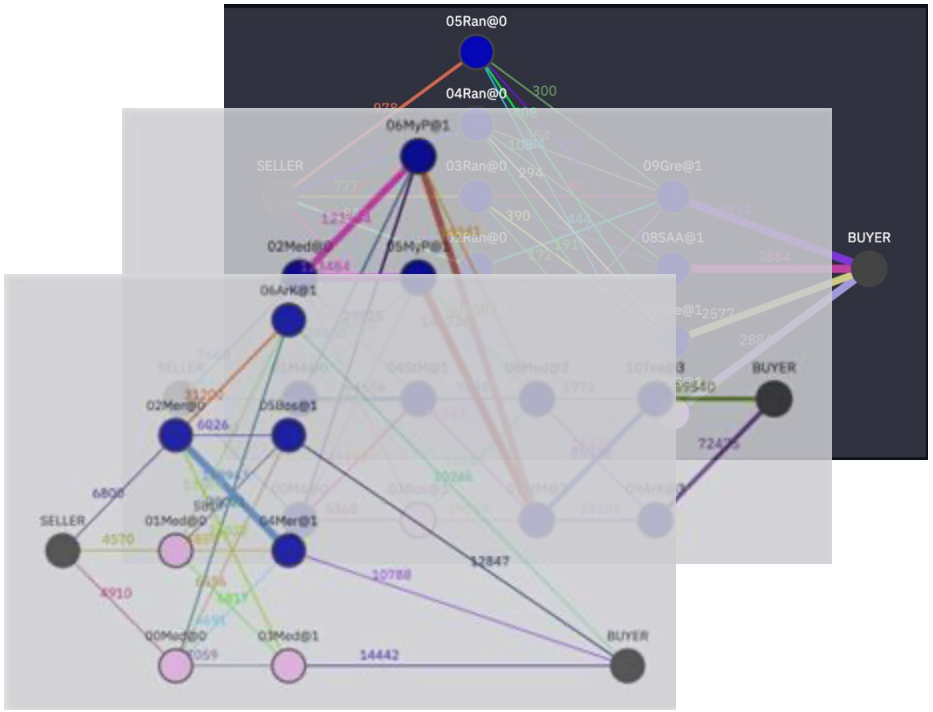
Tournament Procedure

- Given K types [agent = type = class]
  - N Configs are generated.
    - Specifies all world parameters up to the class of one set of factory managers
  - **NK** Simulations are run:
    - Every agent is run in each configuration.
  - Scores of all agent instances in each world are averaged giving the agent score in that world
  - The score of the agent = asymmetrical **truncated mean**
    - *Highest 5% of the scores in the top quadrant are removed*
    - *Risk averse → penalizes occasional negative scores*
- *The same winners result from using the median, mean, and truncated mean.*



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Online Competition

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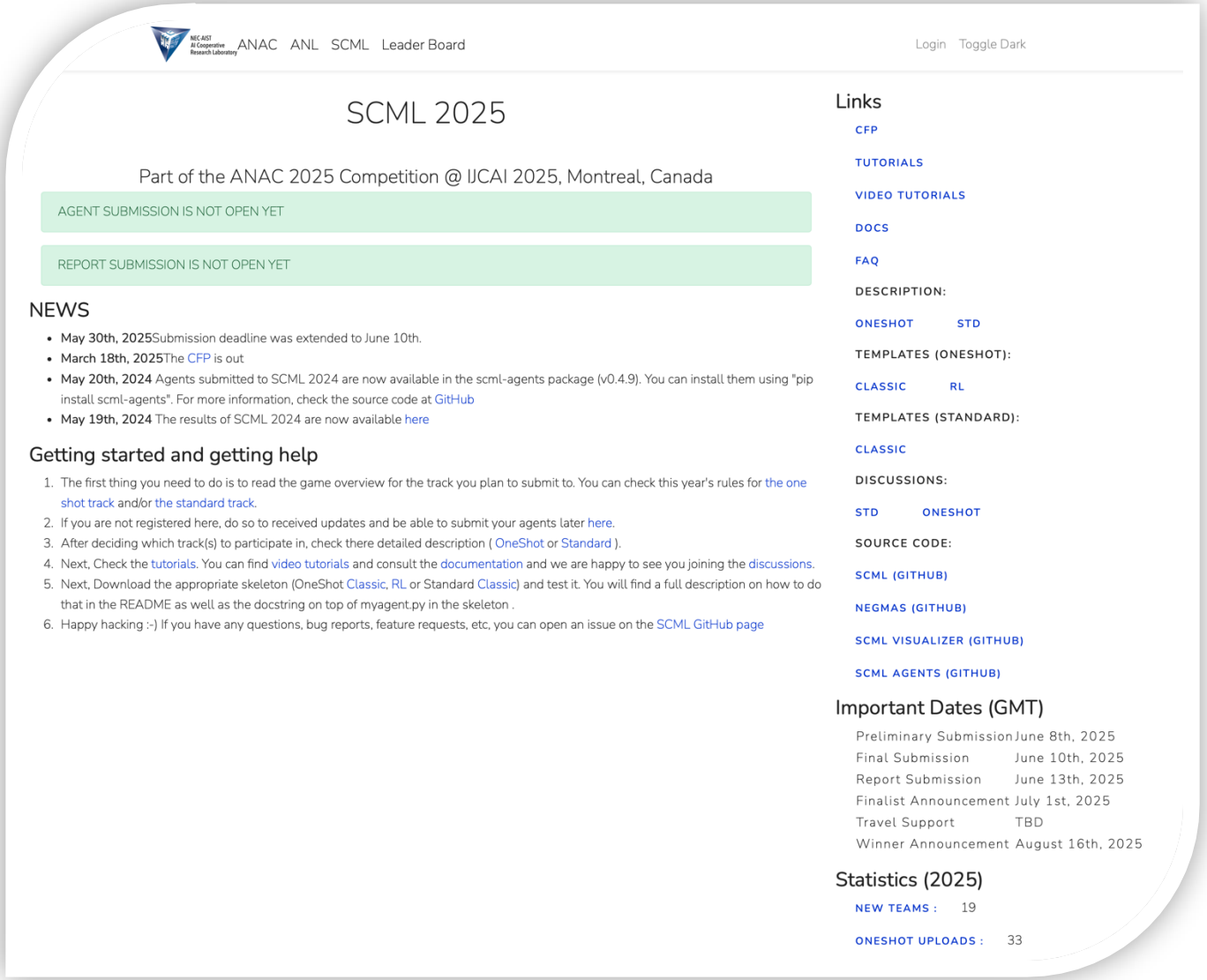
SCML 2025 Online Competition

https://scml.cs.brown.edu/scml

- 2 Tracks
- 19 New registrations (56 in 2024)
- 65 New agents uploaded (77 in 2024)

- Tournaments Run:
  - Oneshot: 124 (113 in 2024)
  - Standard: 161 (101 in 2024)

- This year:
  - More teams returned back
  - More tested agents from every team
  - More balanced interest in OneShot and Standard



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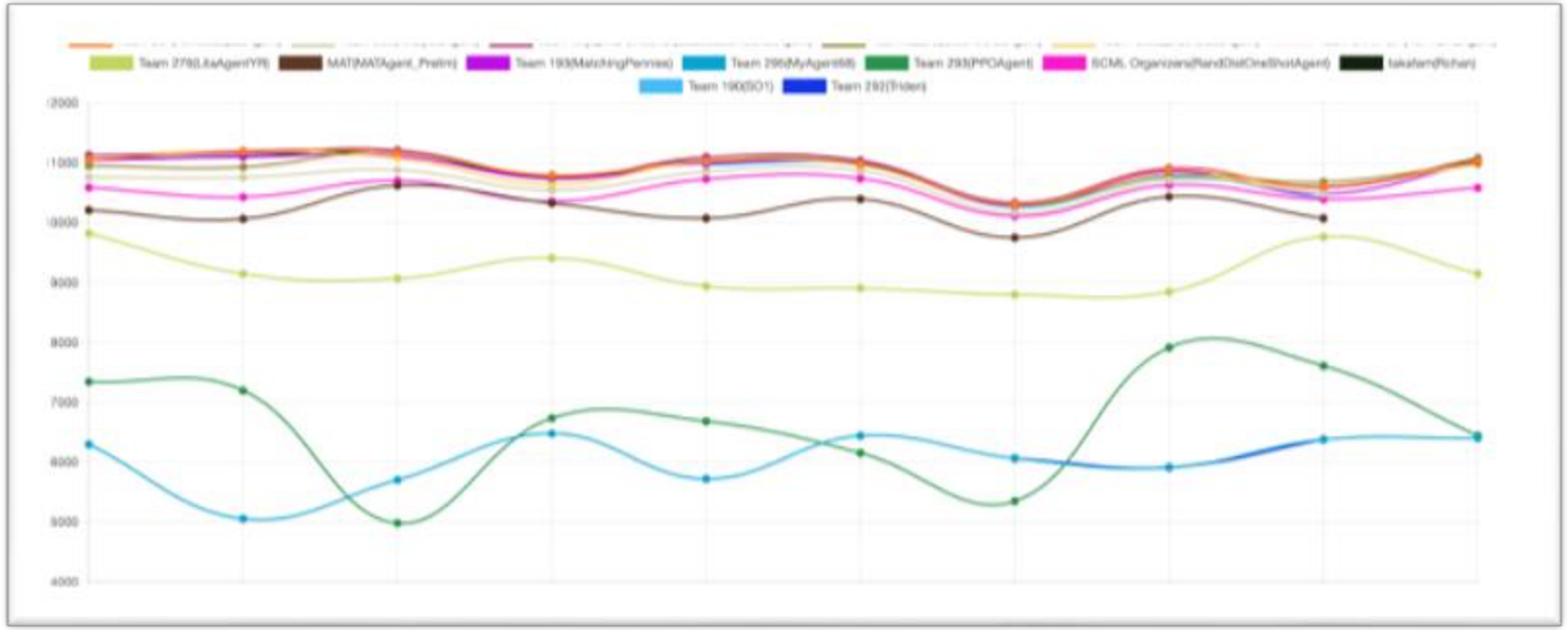
SCML-OneShot Online Competition

https://scml.cs.brown.edu/leaderboard

- 21 Different Agents (19 in 2024)
- 11 Submitted to the official competition (14 in 2024)
- 124 tournaments (113 in 2024)
  - Between 10 min and 7 hours per tournament



#	Agent	Score
1	Rchan	11,069
2	AlmostEqualAgent	11,047
3	CautiousOneShotAgent	11,036
4	MatchingPennies	11,005
5	CostAverseAgent	11,002
6	DistRedistAgent	10,971
7	HoriYamaAgent	10,969
8	RandDistOneShotAgent	10,582
9	LitaAgentYR	9,149
10	PPOAgent	6,442
11	MyAgent68	6,402

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Agent Qualified to the Official Competition

Agent	Team Leader	Institute	Country	Team Name
Rchan	Takayama	TUAT	Japan	takafam
PPOAgent	Shoma Mizuno	NIT	Japan	Team 293
LitaAgentYS	YIHENG TANG	Kyoto University	Japan	Team 276
AlmostEqualAgent	Takano Rikuto	NIT	Japan	Team 284
AnalysisAgent	Eito Sugita	NIT	Japan	Team 283
HoriYamaAgent	Hayaki Horinouchi	Kyoto University	Japan	Team STAR UP
MATAgent_Prelim	Tyrone Serapio	Brown University	USA	MAT
MyAgent29	Hajime Endo	TUAT	Japan	Team Ukku
MyAgent56	Yuzuru Kitamura	TUAT	Japan	TeamYuzuru
CautiousOneShotAgent	Ryoga Miyajima	TUAT	Japan	Team Miyajima
MatchingPennies	Akash Singirikonda	Brown University	USA	Team 193

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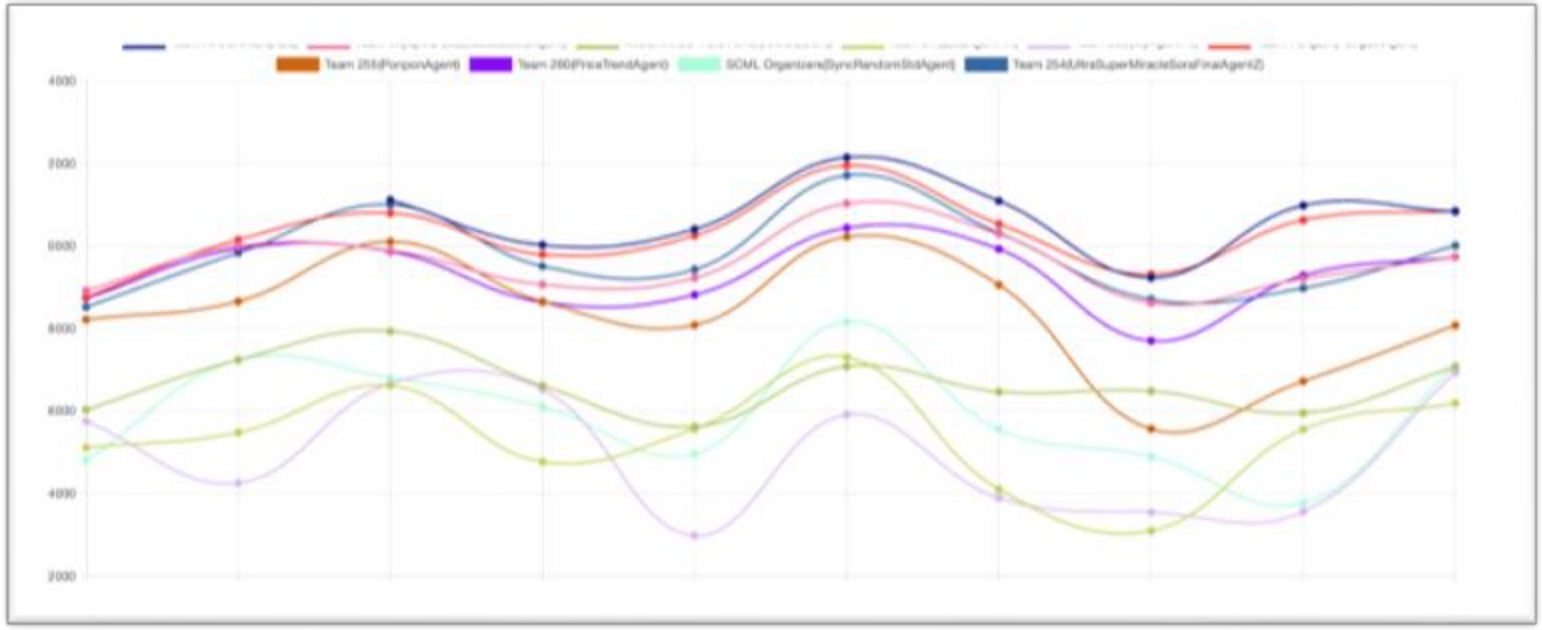
SCML-Standard Online Competition

https://scml.cs.brown.edu/leaderboard

- 19 Different Agents (13 in 2024)
- 9 Submitted to the official competition (9 in 2024)
- 161 tournaments (101 in 2024)
  - Between 10 min and 7 hours per tournament



#	Agent	Score
1	PenguinAgent	10,847
2	AS0	10,835
3	UltraSuperMiracleSoraFinalAgentZ	10,004
4	PriceTrendAgent	9,735
5	CautiousStdAgent	9,732
6	PonponAgent	8,072
7	SyncRandomStdAgent	7,107
8	KATSUDON	7,068
9	MyAgent19	6,930
10	LitaAgentYR	6,185

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Agent Qualified to the Official Competition

Agent	Team Leader	Institute	Country	Team Name
AS0	Atsunaga Sadahiro	TUAT	Japan	Team ATSUNAGA
PriceTrendAgent	Kawasaki Yuta	NIT	Japan	Team 280
PonponAgent	Kento Fukuda	NIT	Japan	Team 255
UltraSuperMiracleSoraFinalAgentZ	Sora Nishizaki	NIT	Japan	Team 254
XenoSotaAgent	Sota Sakaguchi	NIT	Japan	SotaWorks
KATSUDON	Yamadori Kohki	NIT	Japan	MISOKATSU-TEISYOKU
LitaAgentYR	YIHENG TANG	Kyoto University	Japan	Team 276
Penguin Agent	GouKazusa	NIT	Japan	Team Penguin
CautiousStdAgent	Ryoga Miyajima	TUAT	Japan	Team Miyajima

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Tournament Mechanics

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Tournament Mechanics

■ Qualifications Round

Determines the finalists

- **Admission conditions:**
  - Submitted by the deadline
  - Submitted a report describing the strategy
  - Having a non-trivial strategy
- **Progression conditions:**
  - Work as well as one of the **top 2** agents from last year.
    - We used to require beating previous year's winner
  - Be in the top 50% of the agents

■ Finals Round

Determines the winners

- **Admission conditions:**
  - Passer the qualifications round
- **Progression conditions:**
  - Work as well as one of the **top 2** agents from last year.
    - We used to require beating previous year's winner
  - Be in the top 50% of the agents

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SCML OneShot Rresult

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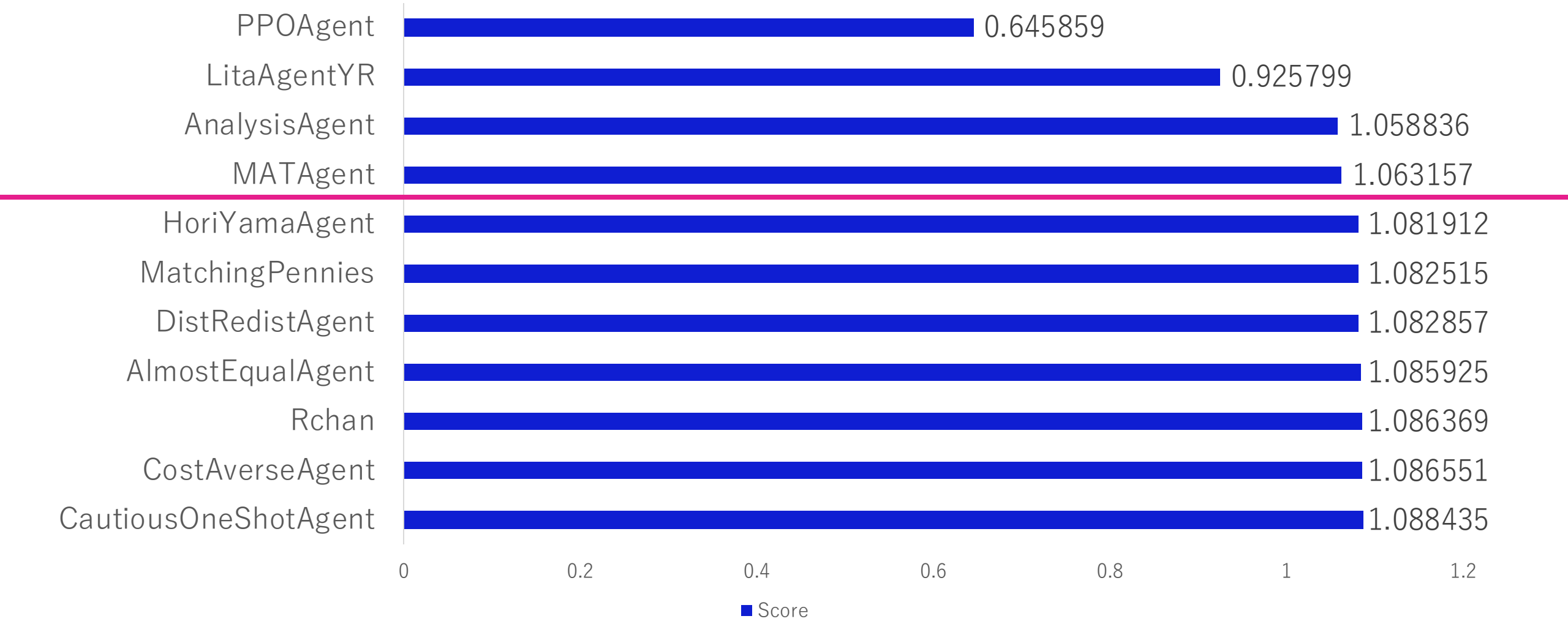
SCML-OneShot Qualifications



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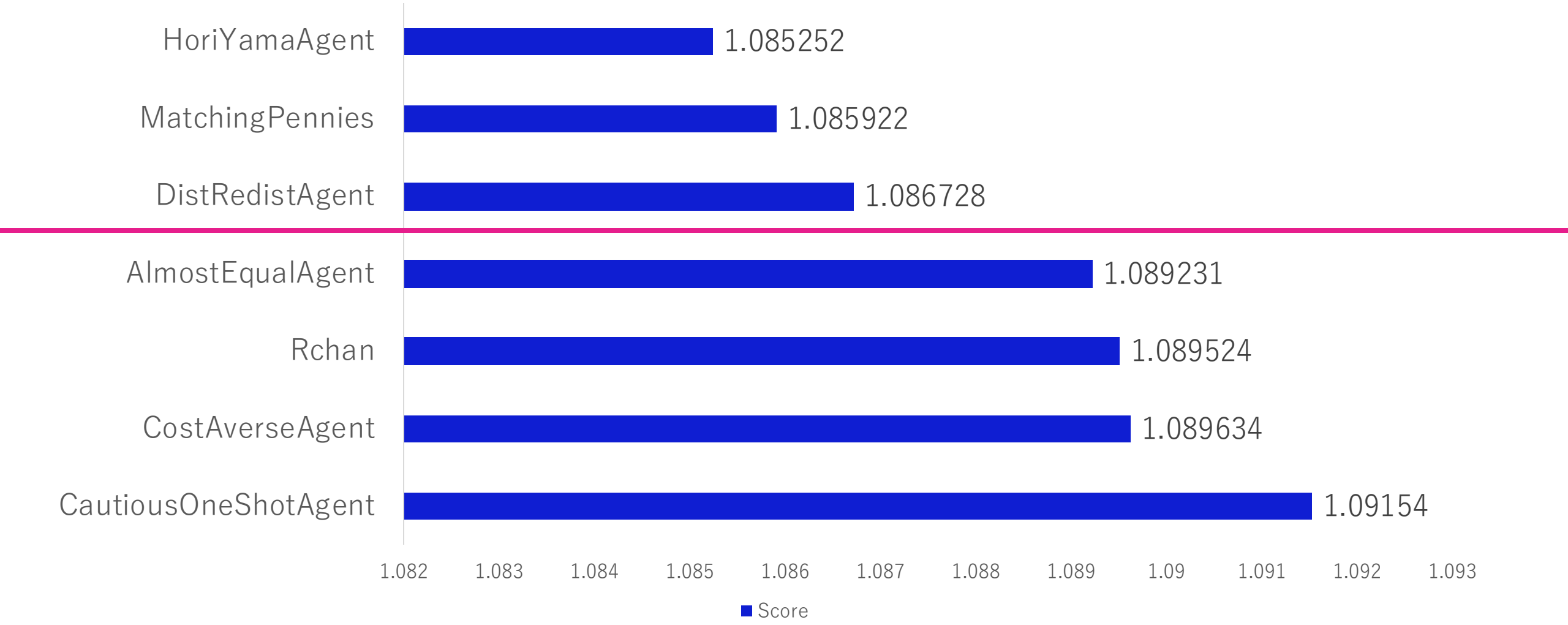
SCML-OneShot Qualifications



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Yuzuru Kitamura

TAT
Tokyo University of Agriculture and Technology

300€

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Shota Takayama

Tokyo University of Agriculture and Technology

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Rikuto Takano
Takeaki Sakabe

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SCML Standard Results

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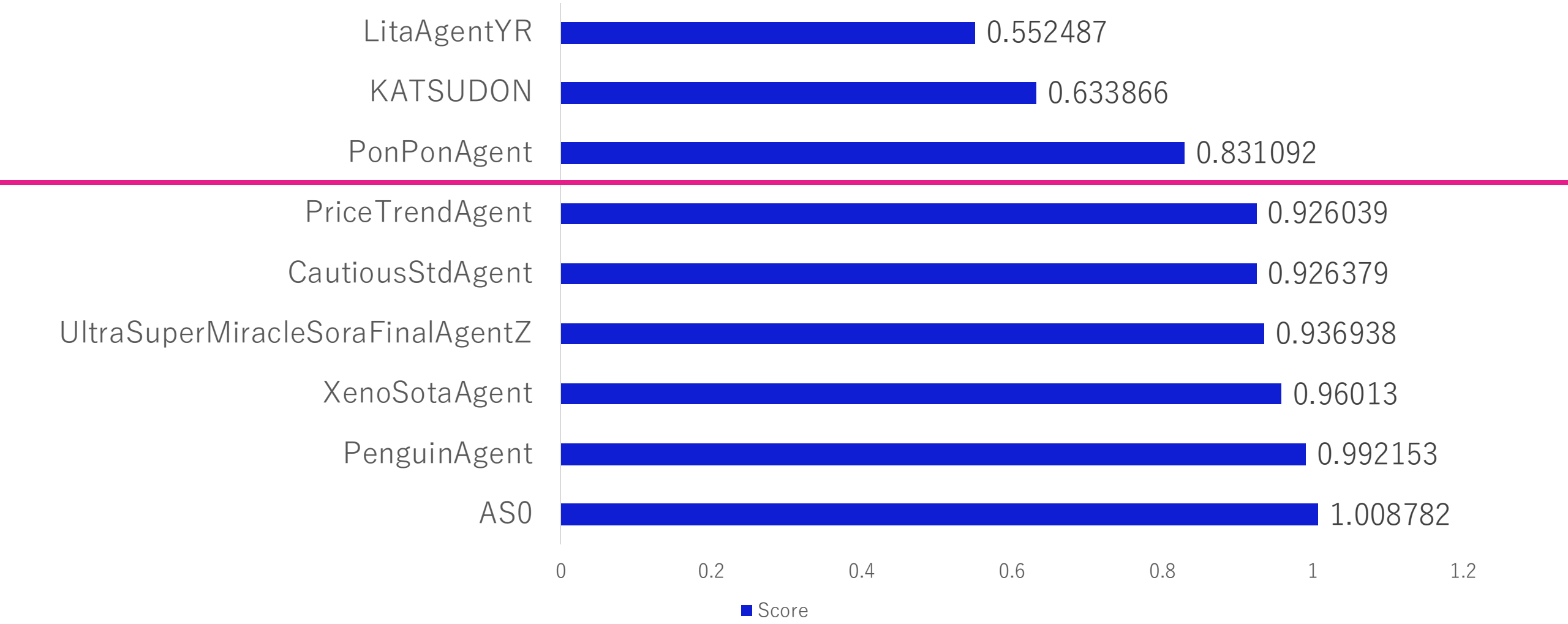
SCML-OneShot Qualifications



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SCML-OneShot Qualifications

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Atsunaga Sadahiro

TAT
Tokyo University of Agriculture and Technology

500€

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Sota Sakaguchi
Takanobu Otsuka

300€

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Sora Nishizaki
Takanobu Otsuka

200€

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Winner Presentations

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Shota Takayama

Tokyo University of Agriculture and Technology

300€

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Atsunaga Sadahiro

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Tokyo University of Agriculture and Technology

500€

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