

# Demo TemporaryNameAgent (TNA) - TNE 2021

## Introduction

### How TNA manages tariffs:

- **Tariff creation** = from average market prices (Sample Agent strategy);
- **Tariff updating** = supersedes tariffs, altering rates by 10% (up or down)
- **When to update** = every 6 hours:
  - DQN selects one of 7 actions:
    - STAY,
    - STORAGE\_UP,
    - STORAGE\_DOWN,
    - PRODUCTION\_UP,
    - PRODUCTION\_DOWN,
    - CONSUMPTION\_UP,
    - CONSUMPTION\_DOWN

### Demo order

#### TNA Model:

- Design
- Actions
- Control game 1 (Sample Broker)
- Control game 2 (Tuc Tac)

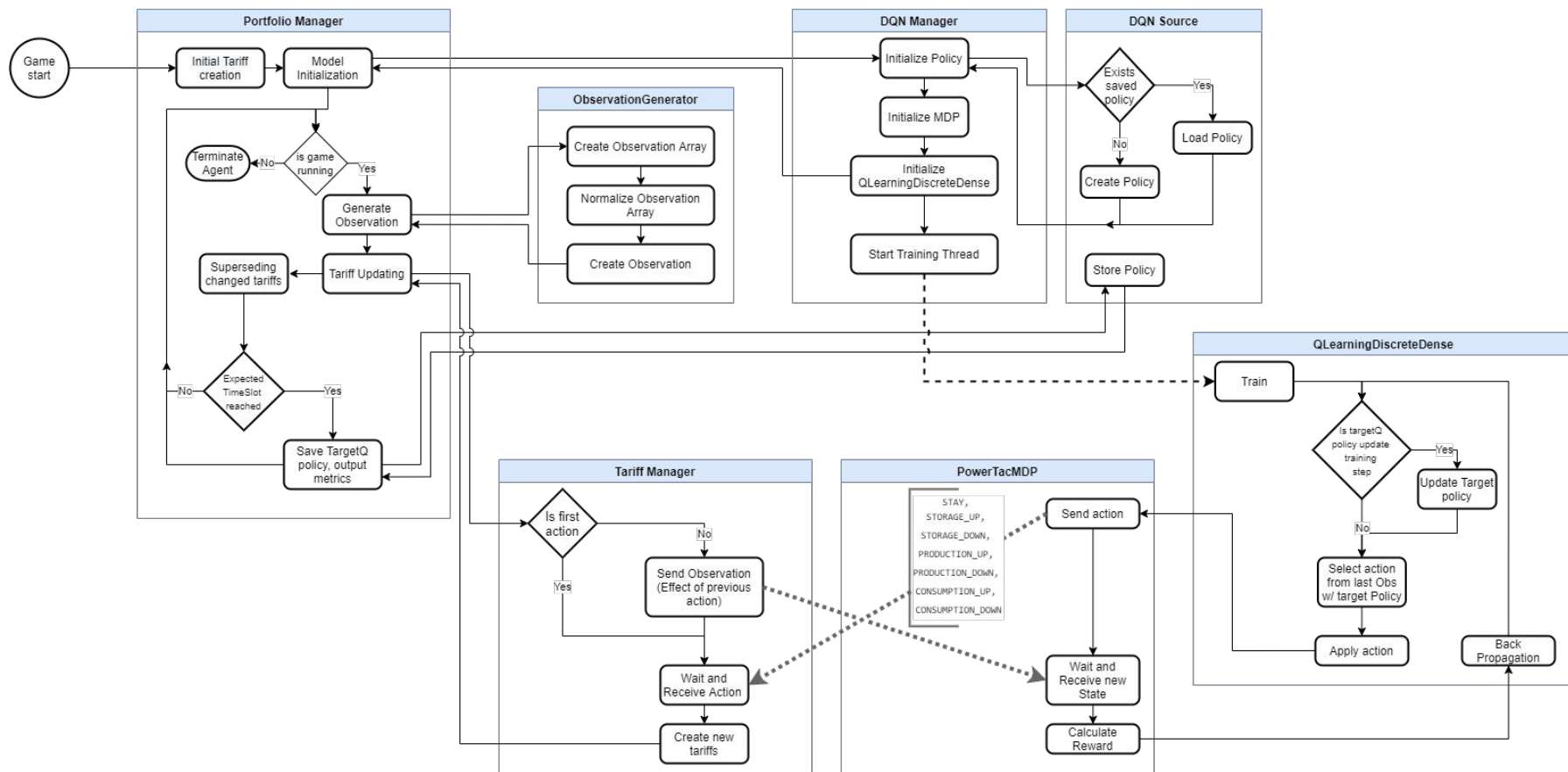
#### Training TNA:

- Exploration games
- Exploitation games

#### Results:

- Final game 1 (Tuc Tac)
- Final game 2 (Sample Broker)

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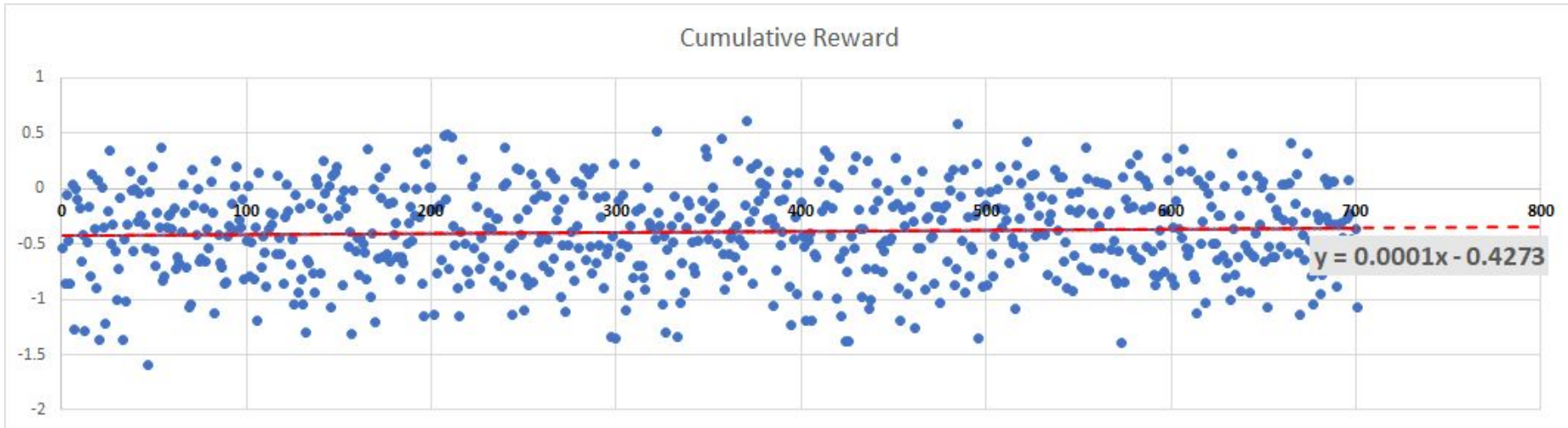
Control games



**DEMO**

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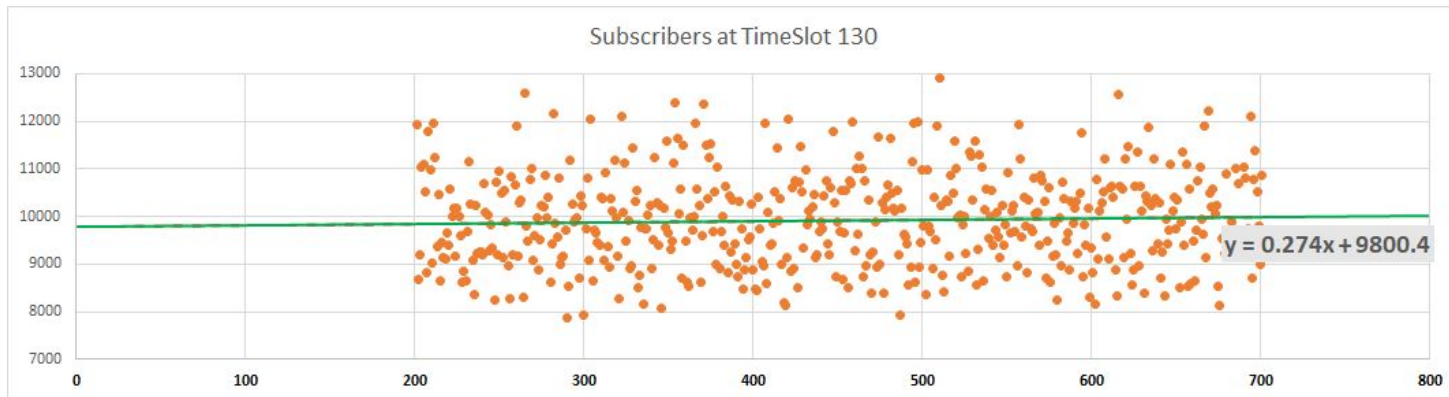
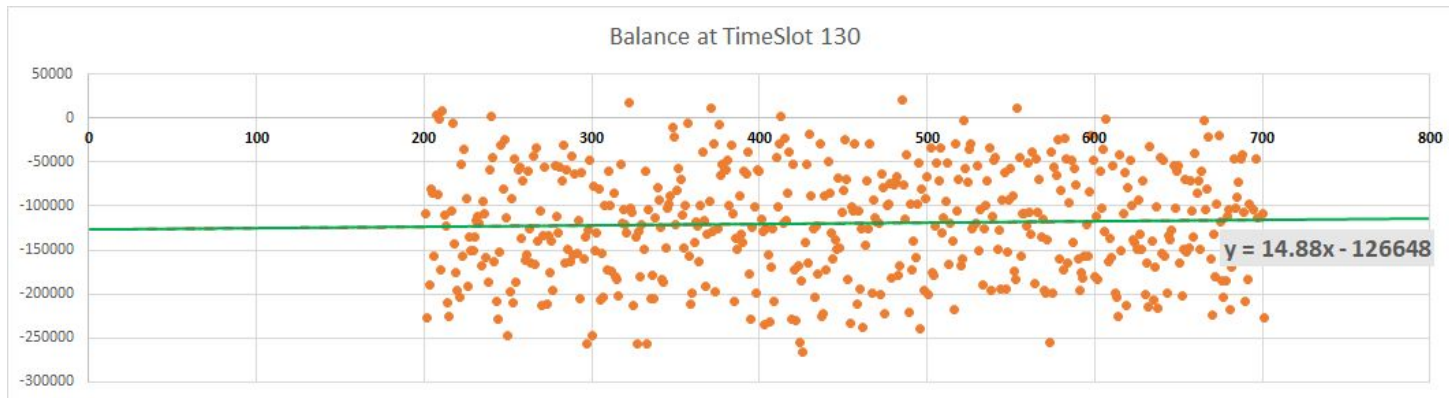
Training phase



**Note: High Q function epsilon factor**

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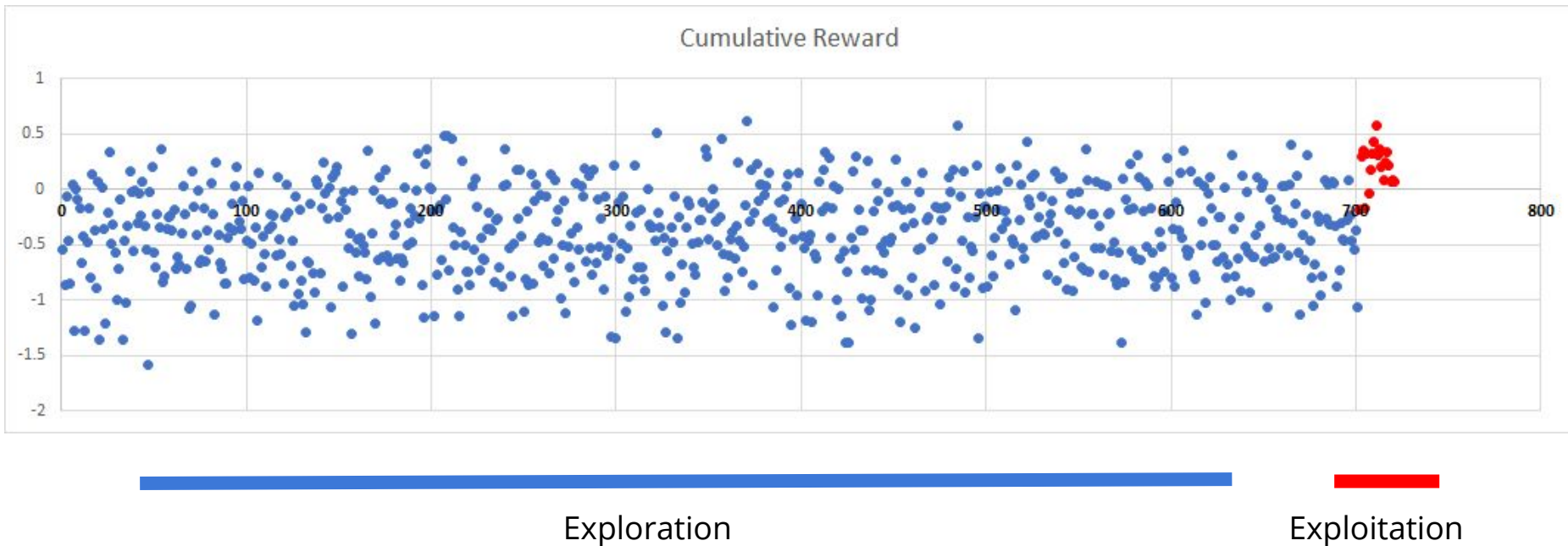
## Training phase



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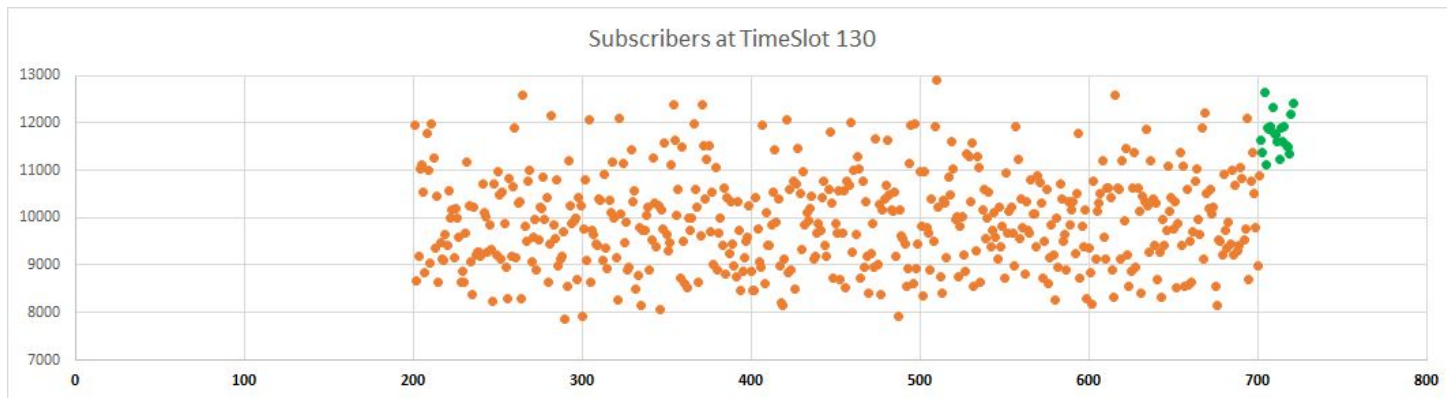
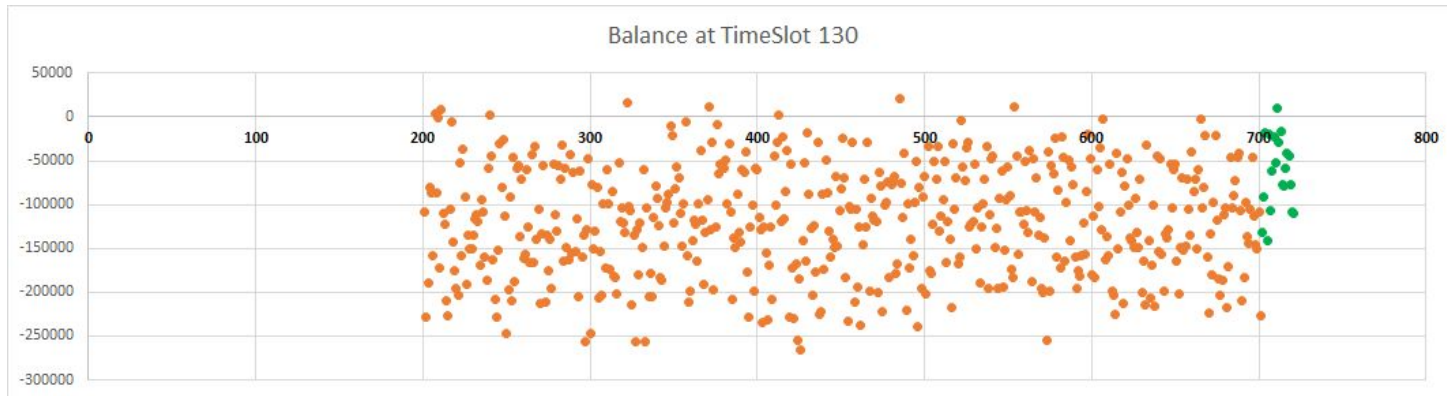
Training phase

20 extra games with trained policy and epsilon = 0



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Training phase



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Final games



**DEMO**



# Tecnologias para o Negócio Eletrónico

## Bibliography

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