

# **Life Centered AI**

**A Global Simulation/Game To Create A Participatory Bill of Rights  
for Nature and People in the AI Era**

Tish Shute  
Co-Founder Cognisyn & Orbital Foundation

Mia Global AI Summit, April 19th, 2024

# Cognisyn



<https://cognisyn.ai>

In our divided world we are unable to address the global challenge of our collective future.

So we are creating, A global simulation/game to enable people around the world to engage in a biosocial collaboration to draft a comprehensive Bill of Rights for Nature and People in the AI Era.

A large scale biosocial collaboration to improve human cooperation and the cooperative intelligence of advanced AI for the benefit of the living world.

## **Life Centered AI**

### **A Global Simulation/game to Reimagine Rights In A More Than Human World**

<https://github.com/CognisynAI/Mission/tree/main>

# Orbital Foundation

Orbital Foundation

Docs



## Orbital is a sandbox for intelligent agents

Run persistent interactive digital twins, simulations, games, AR experiences, and open metaverses.

See  
More

Learn  
More

Join  
Us



## Anselm Hook, Co-Founder, Cognisyn and Orbital Foundation

Anselm uses computation to help us navigate the future better together, putting rich interactive experiences in front of millions of people, & nurturing teams and developers. Games Anselm has worked on include Lord of the Rings, Dragon's Lair, Vigilance, Sword Of Sodan and several others...

# NVIDIA INCEPTION PROGRAM

Propelling AI startups with powerful GPU tools, tech, and deep learning expertise.

Cognisyn accepted into prestigious Nvidia Inception Program



# Earth-2

Accelerated, AI-augmented, high-resolution climate and weather simulations with interactive visualization.



<https://www.nvidia.com/en-us/high-performance-computing/earth-2/>

# Life Centered AI



## [Rain Forest Connection](#)

“We combine the power of eco-acoustics, AI, and our team of experts to leverage our acoustic technology systems to enable the protection and preservation of threatened ecosystems and endangered species in project sites and in partnership with organizations around the world”

“By listening to and learning from nature, we can act proactively to inform conservation efforts and protect these species and forests before they are lost forever.”

“Our mission is to enable our partners-on-the-ground to protect rainforests. Our system sends real-time alerts for chainsaws, trucks, cars and signs of incursion.”



# ‘Big Mind: How collective intelligence can change our world’



“..such assemblies are costly. They require work, investment, specialized skills, and machine intelligence. And for our most pressing problems, there is rarely the appetite or wealth for creating them. As a result our shared intelligence consistently underperforms, dots are not joined up, patterns are not recognized or acted on, and lessons are not learned.”

“..highly competitive fields—the military, finance, and to a lesser extent marketing or electoral politics—account for the majority of investment in tools for large-scale intelligence. Their influence has shaped the technologies themselves.”

**Sir Geoffrey Mulgan, Professor of Collective Intelligence, Public Policy and Social Innovation at University College**

# Global Cooperation and Collective Intelligence: Humanity's Greatest Challenges

## Cooperative AI

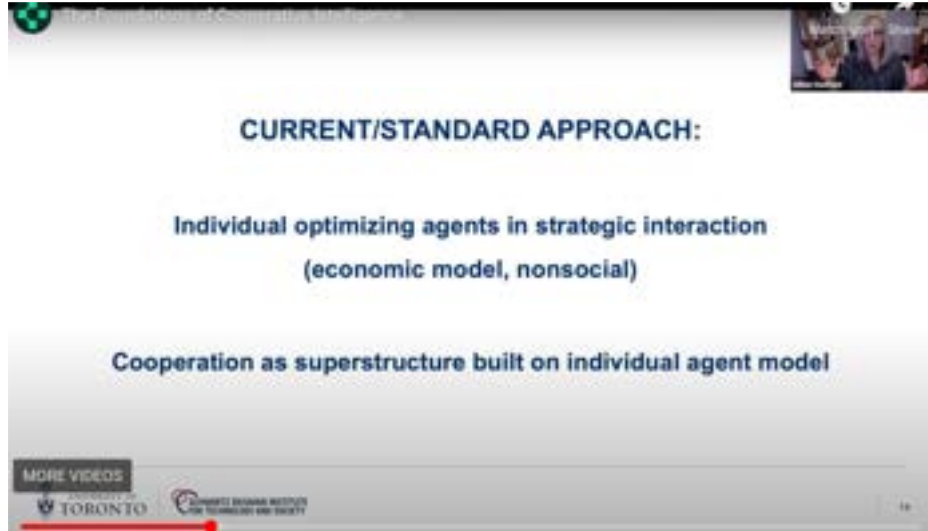
- “My current favourite explanation of what cooperative AI is is that while AI alignment deals with the question of how to make one powerful AI system behave in a way that is aligned with (good) human values, *cooperative AI is about making things go well with powerful AI systems in a messy world where there might be many different AI systems, lots of different humans and human groups and different sets of (sometimes contradictory) values.*”  
[C Tilli, Cooperative AI Foundation](#)

## Regenerative Economics

- a living world that has value in being alive, and keeping us alive,
- making the more than human world legible to economics, and rights discourse, verification for ecological state
- protocols for the stewardship of common resources and public goods in a more-than-human world
- the possibility of non-humans to own things e.g. ecosystems as trust of funds



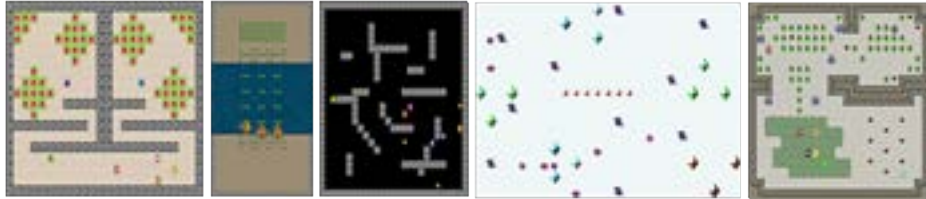
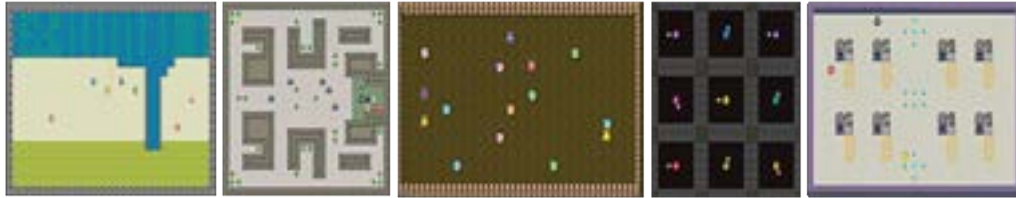
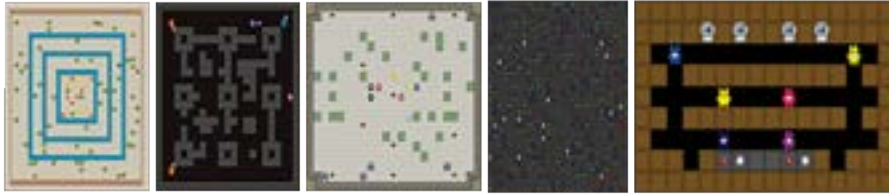
# The Foundations of Cooperative Intelligence



Gillian K. Hadfield, Schwartz Reisman Chair in Technology and Society, Professor of Law and Professor of Strategic Management. CIFAR AI Chair. Schmidt Sciences AI2050 Senior Fellow.

# Deep Mind's Melting Pot

“To catalyse progress in deployable cooperative AI that complements human prosperity **[and a flourishing living world].**”



Melting Pot Contest at NeurIPS 2023, organised by researchers from the *Cooperative AI Foundation, MIT, and Google DeepMind.*

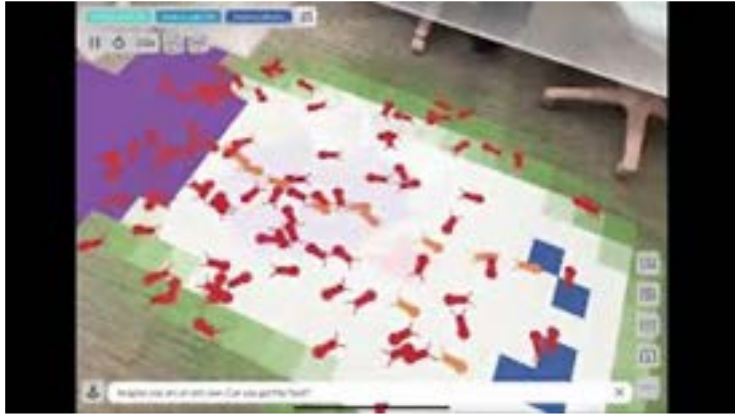
This new competition challenges researchers to push the boundaries of multi-agent reinforcement learning (MARL) for mixed-motive cooperation.

The contest leverages the cutting-edge Melting Pot environment suite to rigorously evaluate how well *agents can adapt their cooperative skills to interact with novel partners in unforeseen situations.* Success requires demonstrating true cooperative intelligence.

<https://www.icrowd.com/challenges/meltingpot-challenge-2023>

<https://deepmind.google/discover/blog/melting-pot-an-evaluation-suite-for-multi-agent-reinforcement-learning/>

# Computational Modeling For All



NetLogo AR: Bringing Room-Scale Real-World Environments Into Computational Modeling for Children

"How swarm intelligence could emerge from very simple micro-level behaviors."

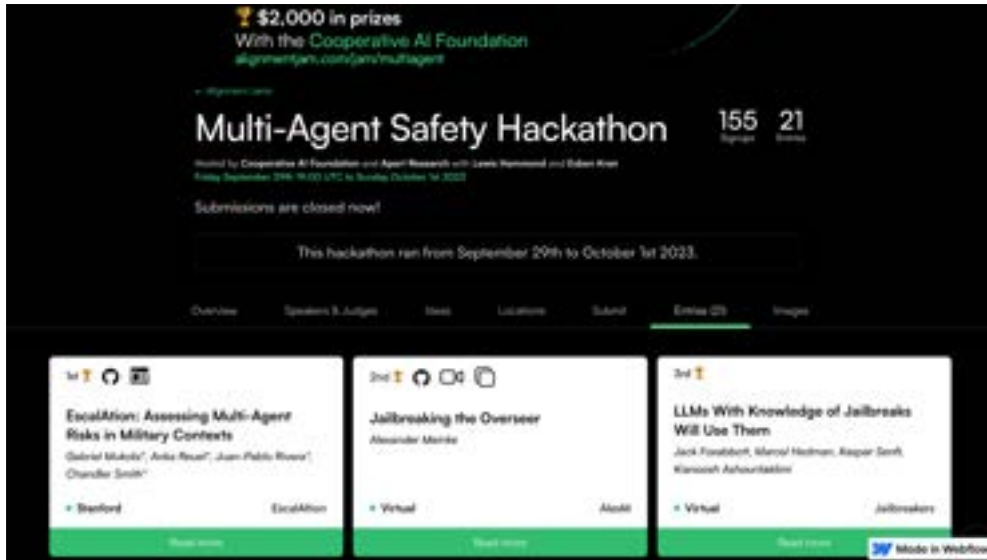


<https://turtlesim.com/products/turtle-universe/>

Turtle Universe authored by John Chen & Uri Wilensky and supported by [CCL at Northwestern University](#).

"Understand social and scientific phenomena & learn STEM, coding, social science & many other topics by playing with scientific models created and used by scientists and researchers."

# AI Cooperation Can be Harmful!



[https://docs.google.com/presentation/d/e/2PACX-1vQRhJHa0seuo-SI345Tult54TrvbEpwNewfFhHYoQHC6IBAFFNdH-Vn7gM8wua82Vxg2Gr6pyWMme0/pub?slide=id.gc4021197dd\\_0\\_25](https://docs.google.com/presentation/d/e/2PACX-1vQRhJHa0seuo-SI345Tult54TrvbEpwNewfFhHYoQHC6IBAFFNdH-Vn7gM8wua82Vxg2Gr6pyWMme0/pub?slide=id.gc4021197dd_0_25)

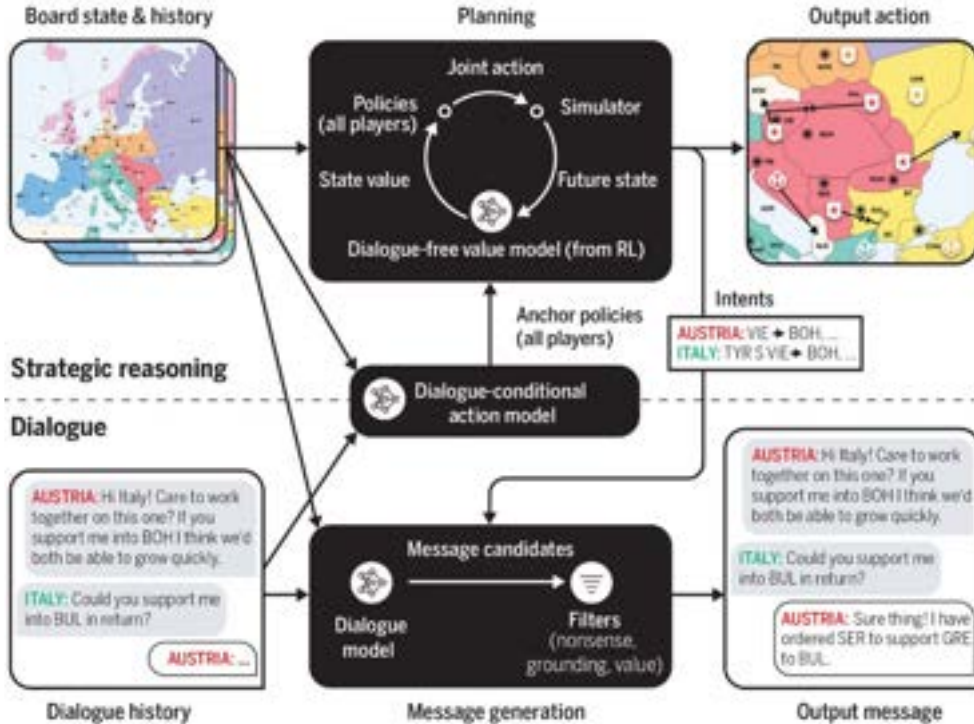
## Exclusion and Collusion

Exclusion - enhanced cooperative competence may harm others who are excluded from the cooperating set.

Collusion can be harmful when it undermines pro-social competition

Coercive Capabilities - many specific capabilities that are useful for cooperation may also be useful for coercion for example understanding and communication capabilities can be used for coercion - e.g AI enabled understanding and communication with animals can be used regeneratively, to help them flourish and thrive or to hunt, coral, and exterminate

# Meta AI's Cicero



Negotiation and honesty in artificial intelligence methods for the board game of Diplomacy (Deep Mind)



<https://garymarcus.substack.com/p/what-does-meta-ais-diplomacy-winning>

<https://www.nature.com/articles/s41467-022-34473-5>



# Agents May Cooperate Better If They Don't Resemble Us

## Outline

- Tragedies of algorithmic interaction – examples and worries
- Rethinking the design of intelligent agents
  - (Intelligence + value alignment) still allows game-theoretic tragedies
- Should AI systems cooperate like humans do?
- **Techniques for achieving cooperation that (also) fit humans**
- Techniques for achieving cooperation that don't fit humans
- Open questions and call to action



**Vincent Conitzer**

Director, [Foundations of Cooperative AI Lab \(FOCAL\)](#)

Professor of [Computer Science](#)  
[Carnegie Mellon University](#)



# Artificial Intelligence For Social Good

## Security Games Go Green



Associate Professor in the Software and Societal Systems Department (S3D) in the School of Computer Science at Carnegie Mellon University.

“...applying game theory to green security domains such as protection of endangered animals and fish stocks.”

### When Security Games Go Green: Designing Defender Strategies to Prevent Poaching and Illegal Fishing

Fei Fang<sup>1</sup>, Peter Stone<sup>2</sup>, Milind Tambe<sup>1</sup>

<sup>1</sup>University of Southern California, Los Angeles, United States

<sup>2</sup>University of Texas at Austin, Austin, United States

<sup>1</sup>{feifang,tambe}@usc.edu, <sup>2</sup>pstone@cs.utexas.edu

#### Abstract

Building on the successful applications of Stackelberg Security Games (SSGs) to protect infrastructure, researchers have begun focusing on applying game theory to green security domains such as protection of endangered animals and fish stocks. Previous efforts in these domains optimize defender strategies based on the standard Stackelberg assumption that the adversaries become fully aware of the defender's strategy before taking action. Unfortunately, this assumption is inappropriate since adversaries in green security domains often lack

erally do not conduct extensive surveillance before performing an attack and spend less time and effort in each attack, and thus it becomes more important to model the attackers' bounded rationality and bounded surveillance. Third, there is more attack data available in green security domains than in infrastructure security domains, which makes it possible to learn the attackers' decision making model from data.

Previous work in green security domains [Yang *et al.*, 2014; Haskell *et al.*, 2014] models the problem as a game with multiple rounds and each round is a SSG [Yin *et al.*, 2010] where the defender commits to a mixed strategy and the attackers respond to it. In addition, they address the bounded rationality of attackers using the SUGR model [Nouran *et*

[https://teamcore.seas.harvard.edu/sites/projects.iq.harvard.edu/files/teamcore/files/2015\\_21\\_teamcore\\_ijcai2015\\_gsg\\_cameraready\\_withappendix.pdf](https://teamcore.seas.harvard.edu/sites/projects.iq.harvard.edu/files/teamcore/files/2015_21_teamcore_ijcai2015_gsg_cameraready_withappendix.pdf)

# A Path to Autonomous Machine Intelligence

“This idea that we're going to just scale up the current large language models and eventually human-level AI will emerge—I don't believe this at all, not for one second.” These large models just manipulate words and images, he says. They have no direct experience of the world.”

Yann LeCun has a bold new vision for the future of AI



## **Key Researchers in Safe AI**

Stuart Russell, Yoshua Bengio, Yann LeCun, Max Tegmark, Steve Omohundro, ARIA

# Yann LeCun's World Model

A Path Towards Autonomous Machine Intelligence

Version 0.9.2, 2022-06-27

Yann LeCun

Courant Institute of Mathematical Sciences, New York University [yann@cs.nyu.edu](mailto:yann@cs.nyu.edu)  
Meta - Fundamental AI Research [yann@fb.com](mailto:yann@fb.com)

June 27, 2022

## Abstract

How could machines learn as efficiently as humans and animals? How could machines learn to reason and plan? How could machines learn representations of percepts and action plans at multiple levels of abstraction, enabling them to reason, predict, and plan at multiple time horizons? This position paper proposes an architecture and training paradigms with which to construct autonomous intelligent agents. It combines concepts such as configurable predictive world model, behavior driven through intrinsic motivation, and hierarchical joint embedding architectures trained with self-supervised learning.



“In short, a world model tries to predict the future in a scenario by learning from what's happened before and what actions are being considered. It's all about making smart guesses to help navigate through or interact with a simulated environment.” Yann LeCun, Feb 20, 2024

# AI Risks Are Not Just Technical and Local, They Are Sociopolitical & Global



“As important as the imperative to regulate AI is the imperative to regulate it correctly. Current debates on AI policy too often tend toward a false debate between progress and doom (or geopolitical and economic advantages versus risk mitigation). And rather than think creatively, solutions too often resemble paradigms for yesterday’s problems. This will not work in the age of AI.”

“Governing AI will be among the international community’s most difficult challenges in the coming decades.”

# Key Questions for AI Governance

- Who sets the agenda for AI governance?
- What cultural logic is instantiated by that agenda
- Who benefits from it?

# AI and Climate Change Governance



## Social Dimensions of Climate Change

As the climate continues to change, millions of poor people face increasing challenges in terms of extreme events, health effects, food, water, and livelihood security, migration and forced displacement, loss of cultural identity, and other related risks.

“Climate change is deeply intertwined with global patterns of inequality”

<https://www.worldbank.org/en/topic/social-dimensions-of-climate-change>



We are not living in an era of change

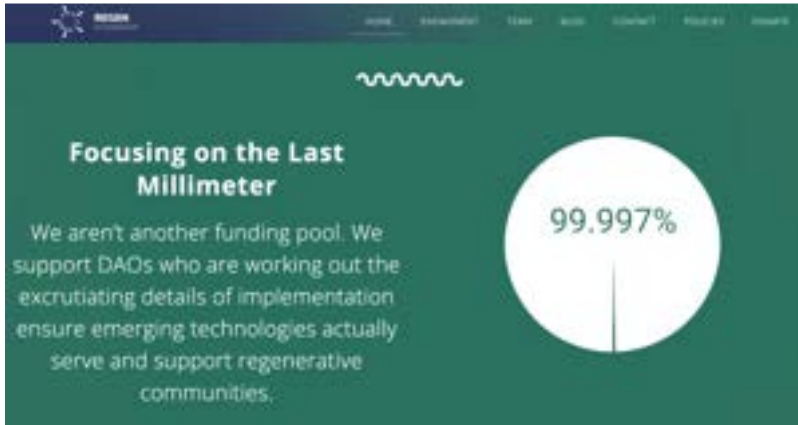


Point 4: **We are living in a change of era**



# Regen Foundation

“The regenerative revolution will be community owned and governed!”



*"honor, learn, and document practices of natural resource management from lineages of folk and traditional ecological knowledge to understand how a new era of ecological institutions can nurture and legitimize non-Western, non-dualist conceptions of human-environmental relation."* [Austin Wade Smith](#)

# Regenerative Economics and Grass Roots DAOs

Regeneration as a Protocol - The state of DAOs to come  
Austin Wade Smith, Regen Foundation



<https://www.youtube.com/watch?v=i0r-aZ2WKk4>



<https://regen.foundation/endaoment/>

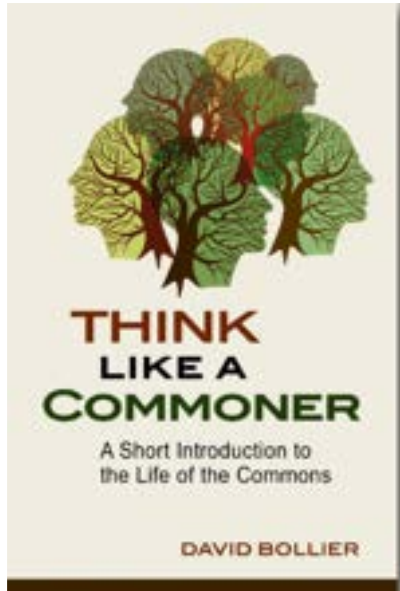
# The Institutional Revolution - AI & DAOs

DAOs - member-owned communities without centralized leadership

- Not just protocol scale governance but intra community governance of legal standing, personhood and rights to non human organisms, right to own things for non human organisms, new kind of institutions
- Stewarding biophysical commons with digital commons, protocols for sensing and verification of ecological state
- DAOs as means through which communities own and govern oracles of ecological state
- Opportunity to design new institutions, new kinds of assemblages of social and ecological systems, creating a community stake models, governing grass roots DAOs
- Risks and opportunities of DAO's that incorporate more autonomy in their infrastructure

# The New Commons: “Think Like A Commoner”

“The difficulties lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds.” John Maynard Keynes



“American political culture is a dedicated champion of the “free market,” after all. It celebrates the heroic individual, the self-made man, not the community. “

“In the face of this cultural heritage, it can be a formidable challenge to explain that the commons is more pervasive than we may realize, and that it can be a highly effective way to create economic and social wealth.”

<https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/4975/GrowthofCommonsParadigm.pdf>



# Planetary Commons: Fostering global cooperation to safeguard critical Earth system functions



<https://www.sciencedaily.com/releases/2024/01/240122182828.htm>

# New Funding and Organizational Architectures for Systemic Challenges

- Our biggest challenges and their potential solutions are systemic.
- Need a mindset that shifts away from single asset investment and siloed R&D.
- Funding architecture capable of coordinating different forms of capital, and working with a group of initiatives, including non profits and different actors that can have a collective impact on the system.
- ImpactDAOs see Regen Network - building ecological assets for the Regenerative Finance (ReFi) economy, Quadratic Funding



# Earth Commons

**Berkeley**

San Francisco Bay Area

Berkeley Climate Change Network

David Brower Center

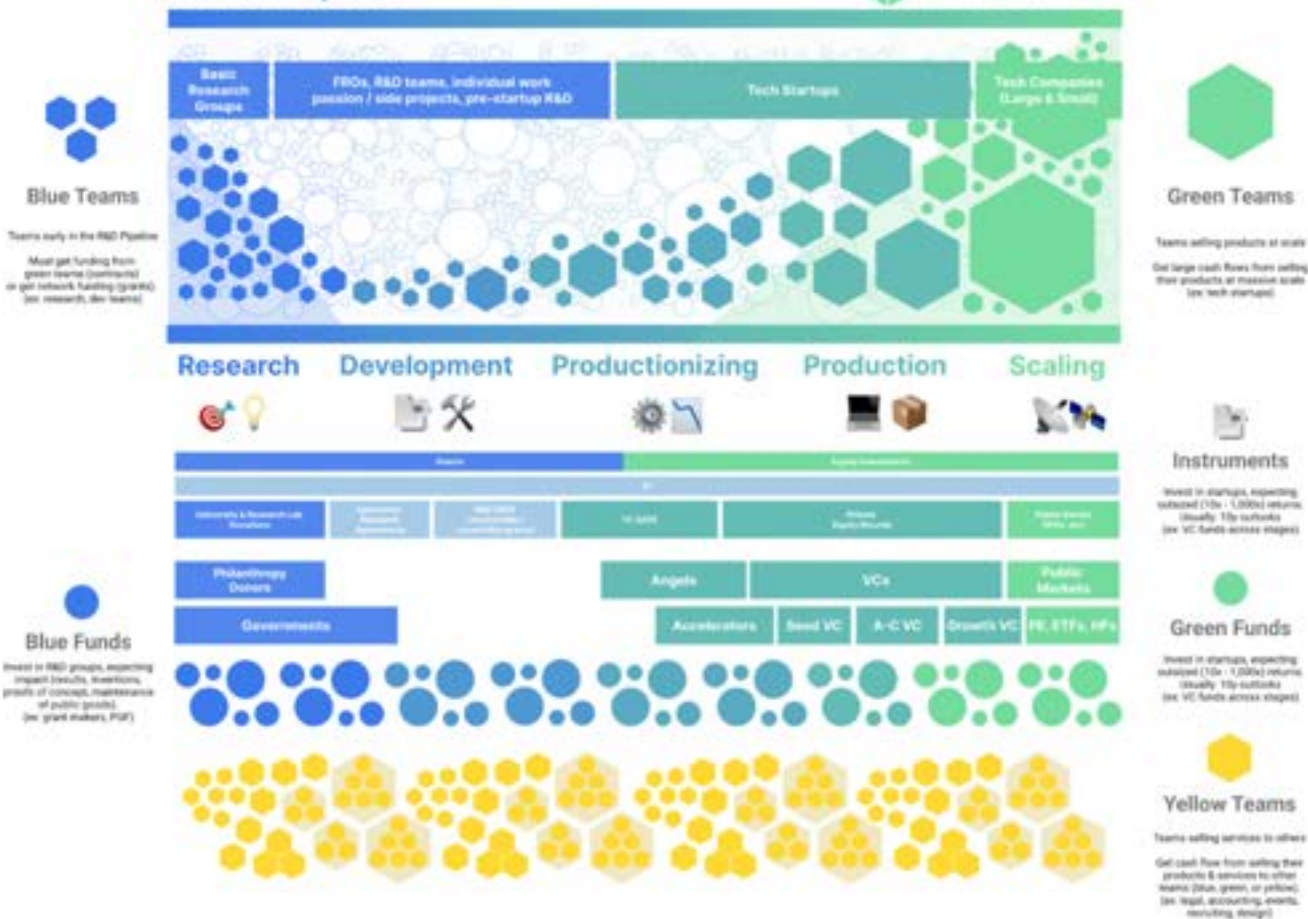
13<sup>th</sup> - 14<sup>th</sup> April  
2024





## The R&D Pipeline

Protocol Labs







**Thank you!**  
tish@cognisyn.ai