SPACE DECENTRAL

Connecting engineers, scientists, and future astronauts to devise and fund next-generation space initiatives.

info@spacedecentral.net

Space programs are not aligned with our drive to explore

Removed from public participation

National space programs have been removed from public guidance and input, in addition to being insulated from any private third-party evaluation

- Limited number of astro jobs, & no path to take strategic action with volunteer work
- Post-collegiate dreams regularly crushed – settling for weaponry instead of spaceships
- Export control regulations result in restrictive hiring policies which impede innovation

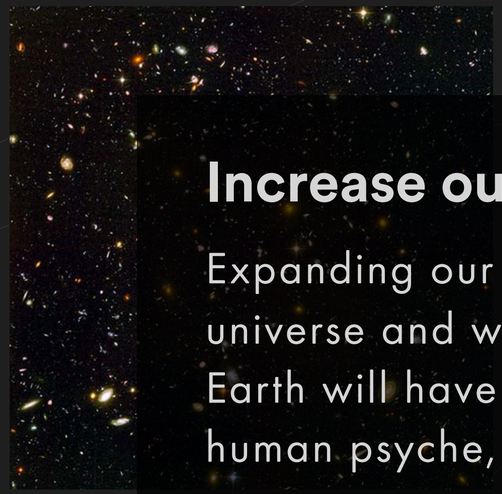
Politicians control funding

At the same time, these program's funding are mostly determined at the whims of politicians, where changes in administration cause setbacks

- NASA, the world's largest program, has 2018 budget of $21 billion – compared to a US defense budget of $700 billion
- Percentage of federal budget allocated to NASA has greatly decreased since 1966
- 2018 European Space Agency budget is $6 billion, yet Europe has over 2x population

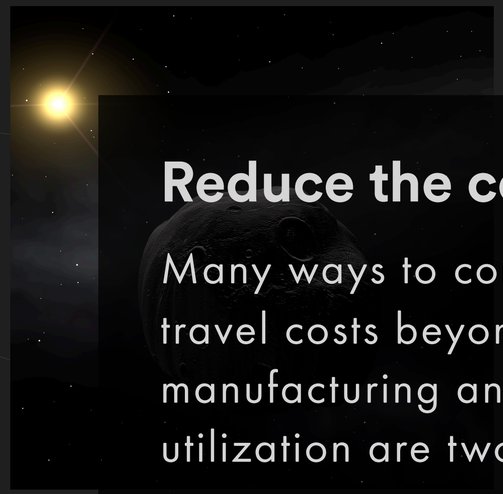

Space is too important to be left to Big Government & Big Business

The Case for an International Space Agency



Increase our knowledge base

Expanding our understanding of the universe and whether life exists beyond Earth will have a tremendous impact on the human psyche, race relations, and religion.



Reduce the cost of space travel

Many ways to contribute to reducing space travel costs beyond rocketry. In-space manufacturing and in-situ resource utilization are two avenues to explore.

Mitigate existential risks

A large asteroid may collide with Earth & wipe us out. Climate collapse. World War III. It's not logical to put all of our eggs in one planet.

Improve life on Earth

GPS and our knowledge of climate change is thanks to space technology. Home insulation, LEDs, and foil blankets can be credited to NASA.

Space Decentral is a decentralized space agency aiming to reinvigorate the push for space exploration, with global citizens in control

Autonomous

Member control over how work is directed, how decisions are made, which projects are funded

Curiosity

Purpose

Expansion

Decentralized

No single corporation or nation determines the direction

Citizen-led

Space Agency

Strategically developing plans for exploration, discovery, and the survival of our species

Why now?

BofAML projects the space industry will grow 771% to $2.7 trillion by 2030

Current market size
~$350 billion

We have to democratize access to this future wealth

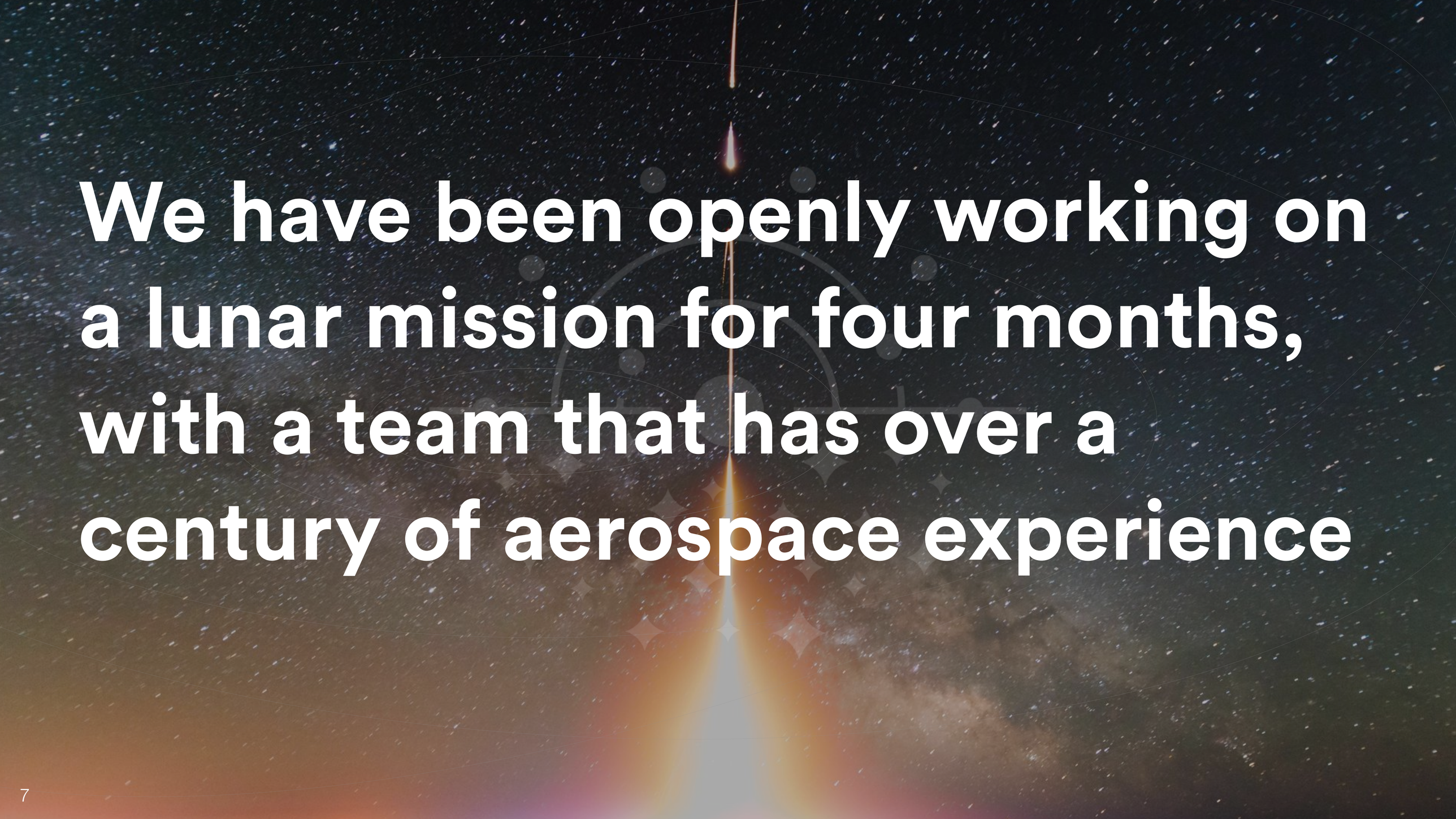
Inventors and entrepreneurs can bring to life advanced space missions with drastically reduced budgets – and these missions can flourish into new ventures

Launch costs will continue to decrease as reusable rockets come to market

Falcon Heavy ($90m) vs.
NASA's SLS ($1b)

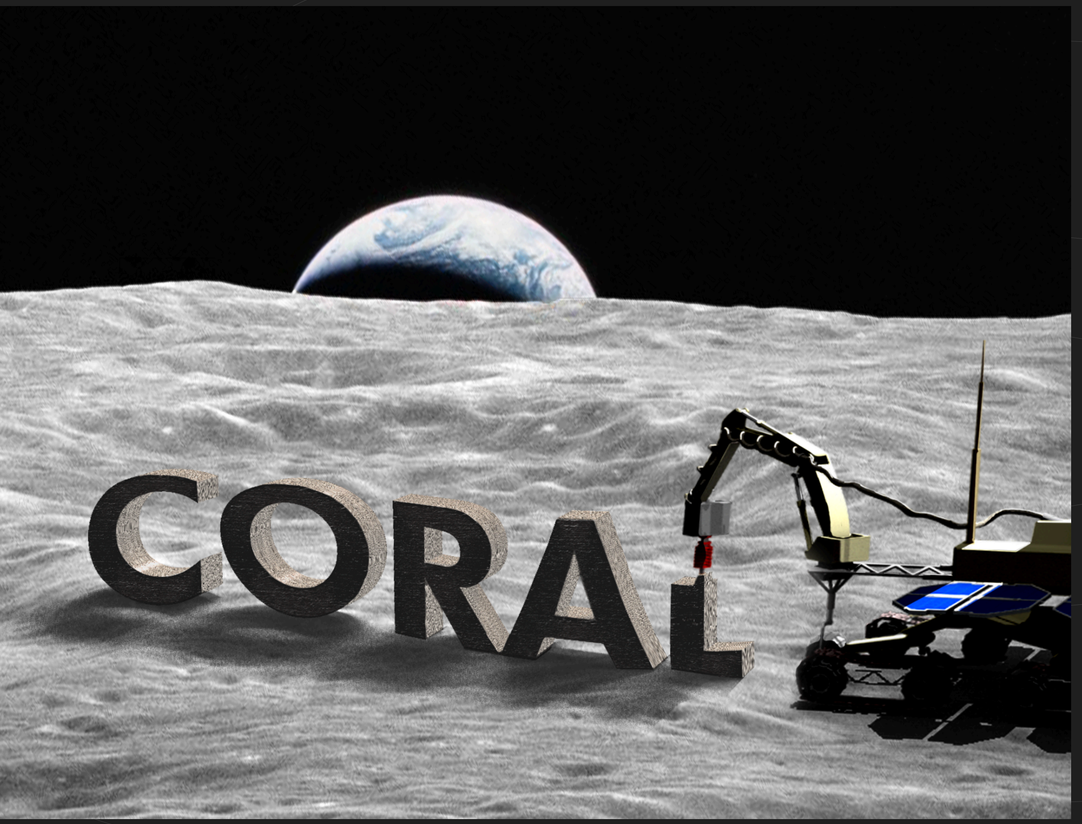
We may all soon have personal satellites

Bank of America Merrill Lynch (BofAML) published these market size projections in a report on October 31, 2017


We have been openly working on a lunar mission for four months, with a team that has over a century of aerospace experience

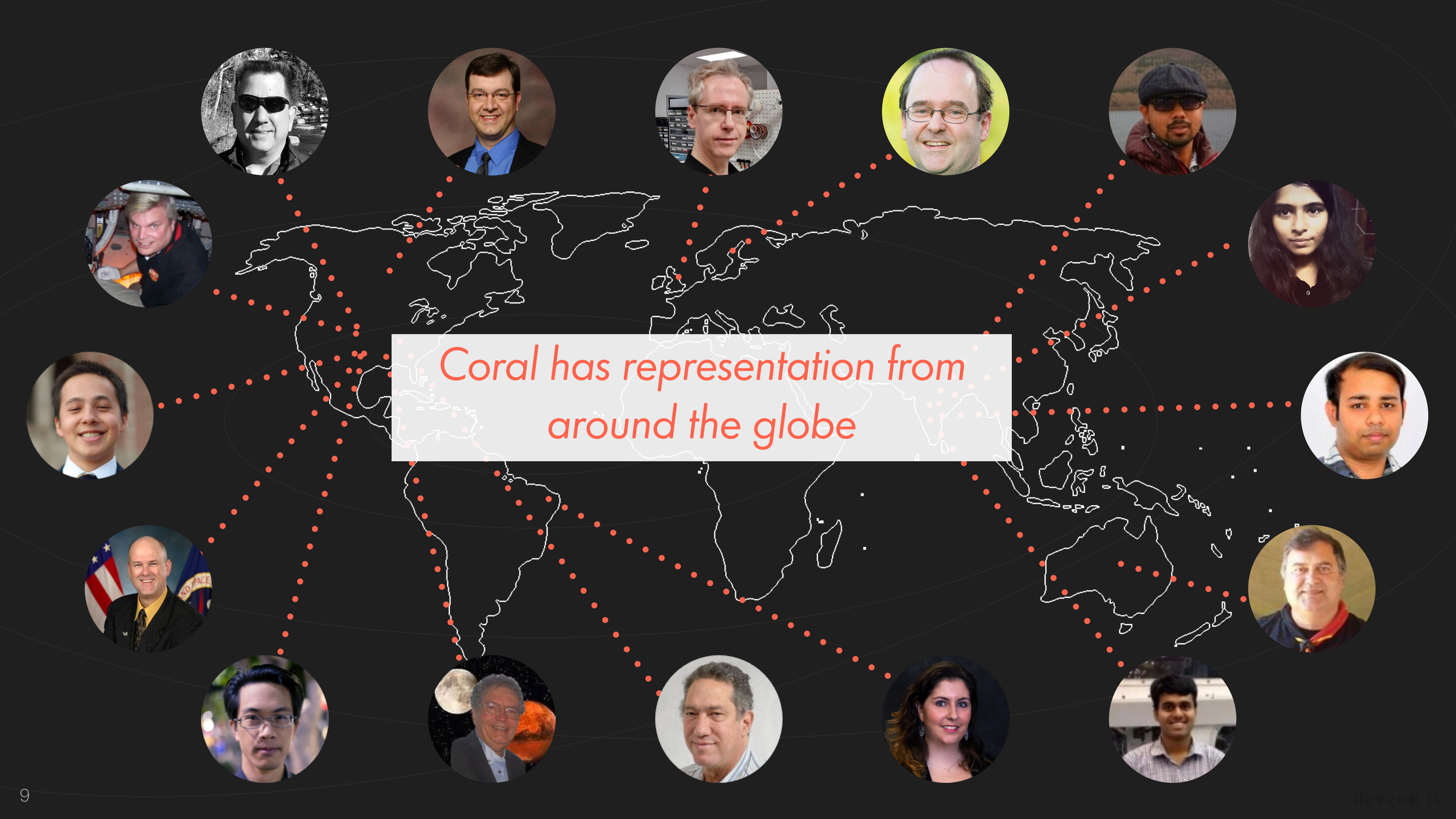
Coral: An Open Lunar Space Program

Space Decentral's Pilot Program



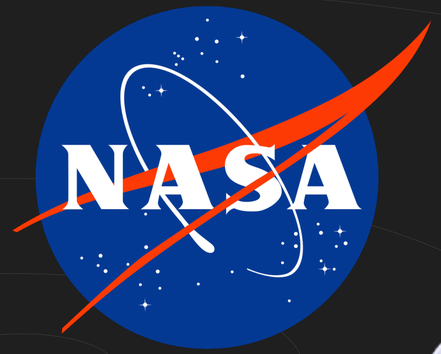
- Objective: demonstrate in-situ resource utilization (ISRU) and 3D printing technologies on the Moon's surface using lunar regolith as feedstock
- DAO vote and funding needed to fully develop the mission
- Over 15 community members currently volunteering, four former NASA engineers

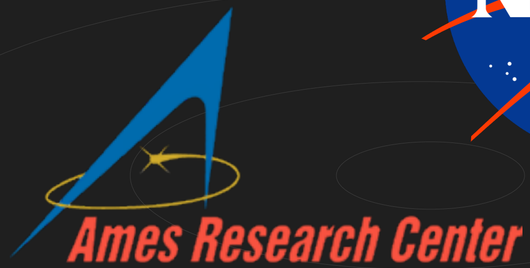
3D printing with moon dust (regolith) will reduce the cost of space travel (less mass to orbit!)


Coral has representation from
around the globe

Coral is currently a volunteer-driven project

Our community members have other day jobs, are students, or are retired





Combined, the team has over a century of aerospace experience

There are no partnerships with the organizations represented in the logos. This slide illustrates the past and present organizations affiliated with current community members.


By operating as a decentralized autonomous organization (DAO), space becomes open to public participation & unchained from the nation-state

Two Token Ecosystem

Faster Than Light

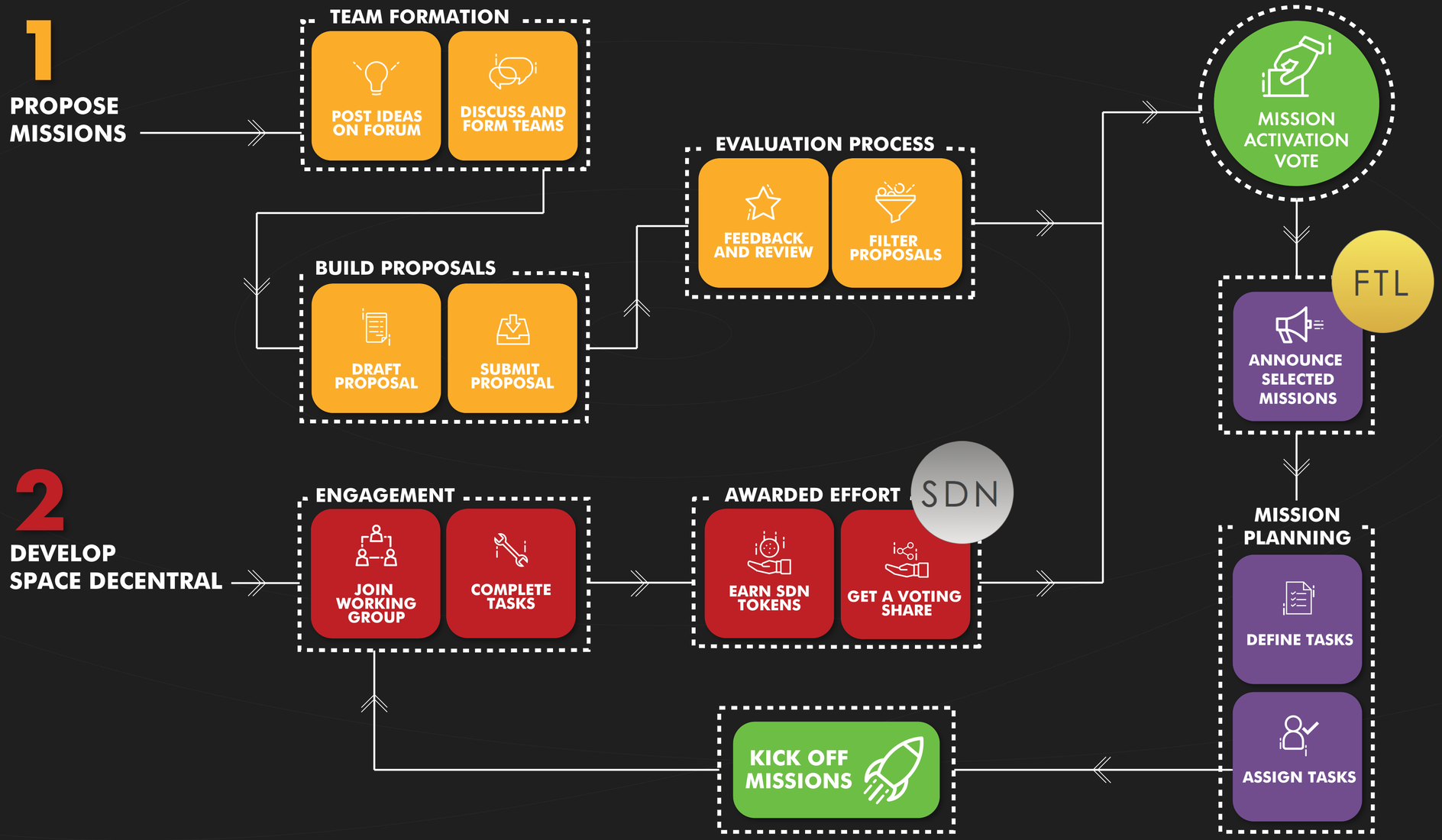
- Transferable token, can be purchased
- Stake for governance rights and investment privileges
- Used to prioritize programs

Space Decentral Network

- Nontransferable, never sold
- Merit-based token, awarded to intellectual contributors
- FTL rewards distributed in proportion to SDN earnings

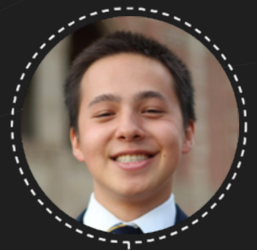
The Space Mission Activation Process (SMAP)

The curation method to vet projects on the Space Decentral Network



Activated proposals receive FTL grants and become open for public participation

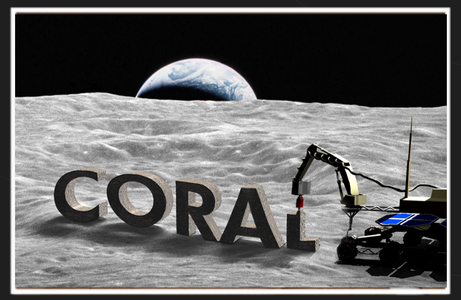
FTL is distributed using a rewards engine, based on the amount of SDN earned by knowledge contributors



Balance

20 SDN · 0 FTL

PROJECT



Demonstrate in-situ resource utilization (ISRU) and 3D printing technologies on the Moon's surface using lunar regolith as feedstock

TASKS

Research structural testing methods — 30 SDN

Research additive manufacturing methods — 50 SDN

Create concept of operations diagram — 20 SDN

50 SDN · 0 FTL

FINISH TASK — 30 SDN

Rewards Engine

50 SDN · 200 FTL

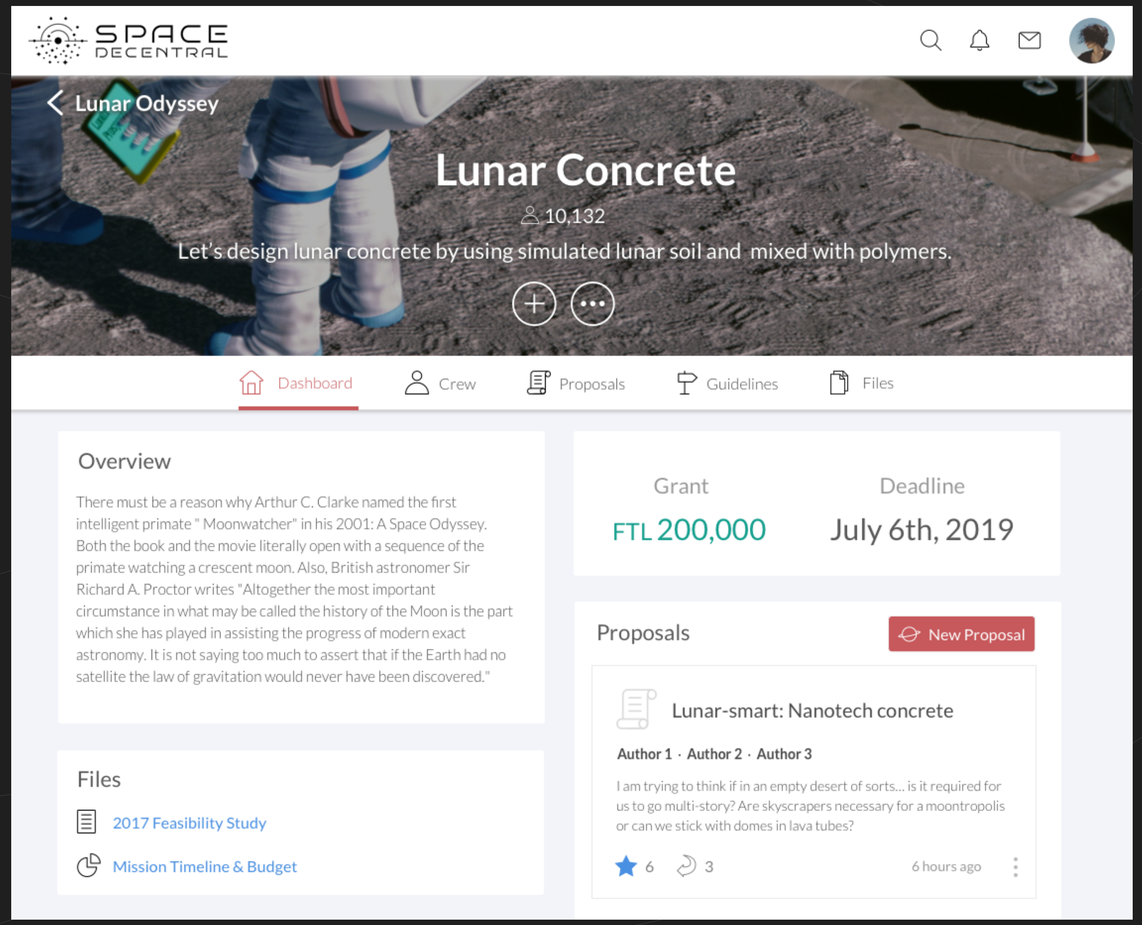
200 FTL

Combining successful concepts from popular platforms to invent the premier space collaboration network

When you combine....

SPACE ANGELS + XPRIZE + WIKIPEDIA The Free Encyclopedia

you get...

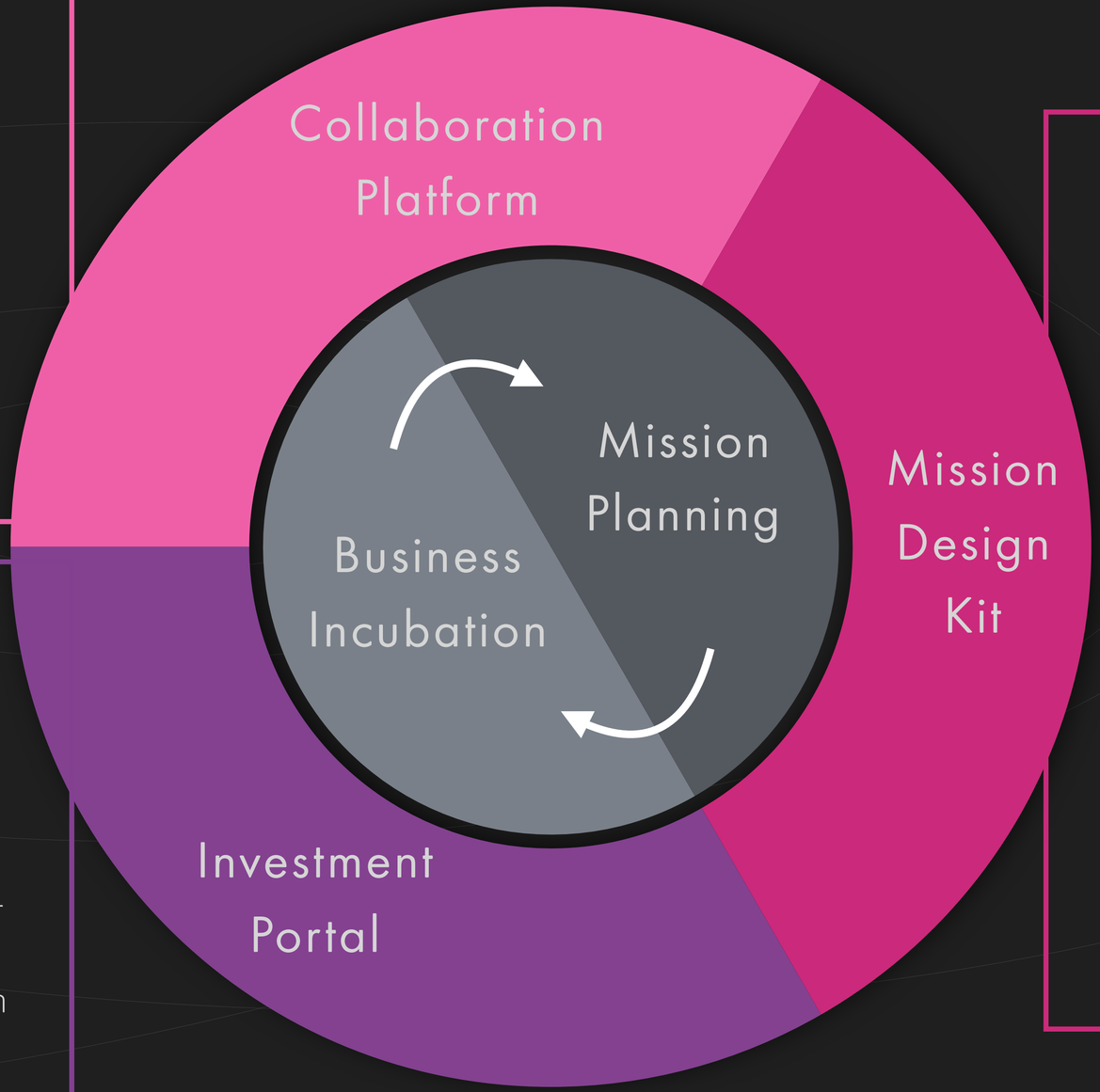


Space Decentral is not affiliated with Space Angels, the X Prize or Wikipedia. This is an illustration that represents how Space Decentral can be considered a hybrid of these three organizations.

Components of the Space Decentral Network

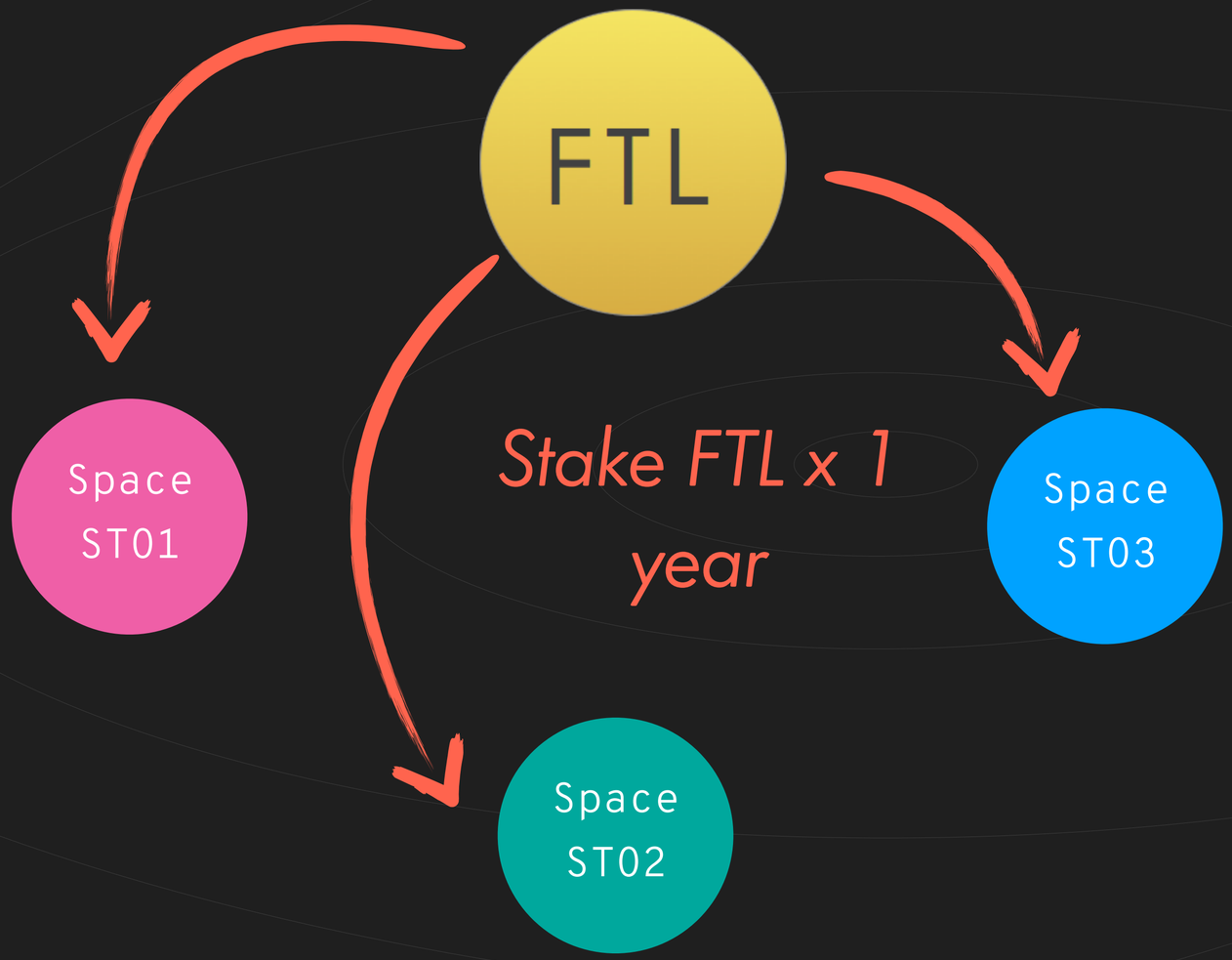
- Join projects, participate in forums
- Share research publications
- Ideate, propose, and develop projects
- Participate in decision-making
- Find consultants, offer services

- As projects mature, they may spin-off into new ventures
- We don't intend to build out the investment portal, but will seek partnership proposals, where the DAO will vote to select the partner
- This removes Space Decentral from the regulatory overhead



- Standardized communication layer between applications and users
- Models-based systems engineering tools
- Integration with a git tool optimized for open source hardware development
- Integration with a space marketplace to provide seamless search for spacecraft parts

An ecosystem to spawn more space tokens



- Besides governance, FTL also provides a unique privilege of gaining early investment access to businesses incubated on the network
- While FTL is not a security token, spin-off projects can have security token offerings
- Can invest up to staked balance and it must have been staked for a minimum of 1 year

FTL doesn't provide ownership in Space Decentral or spin-offs. Holding FTL does not provide dividends or distributions.


Our immediate goal is to build the technological infrastructure to act as the launch pad for an international space agency

Space Agency in a Box

The High-level Stack

Space Decentral

Distributed Engineering Tools

Aragon

Governance & Dapp Framework

Ethereum

Blockchain

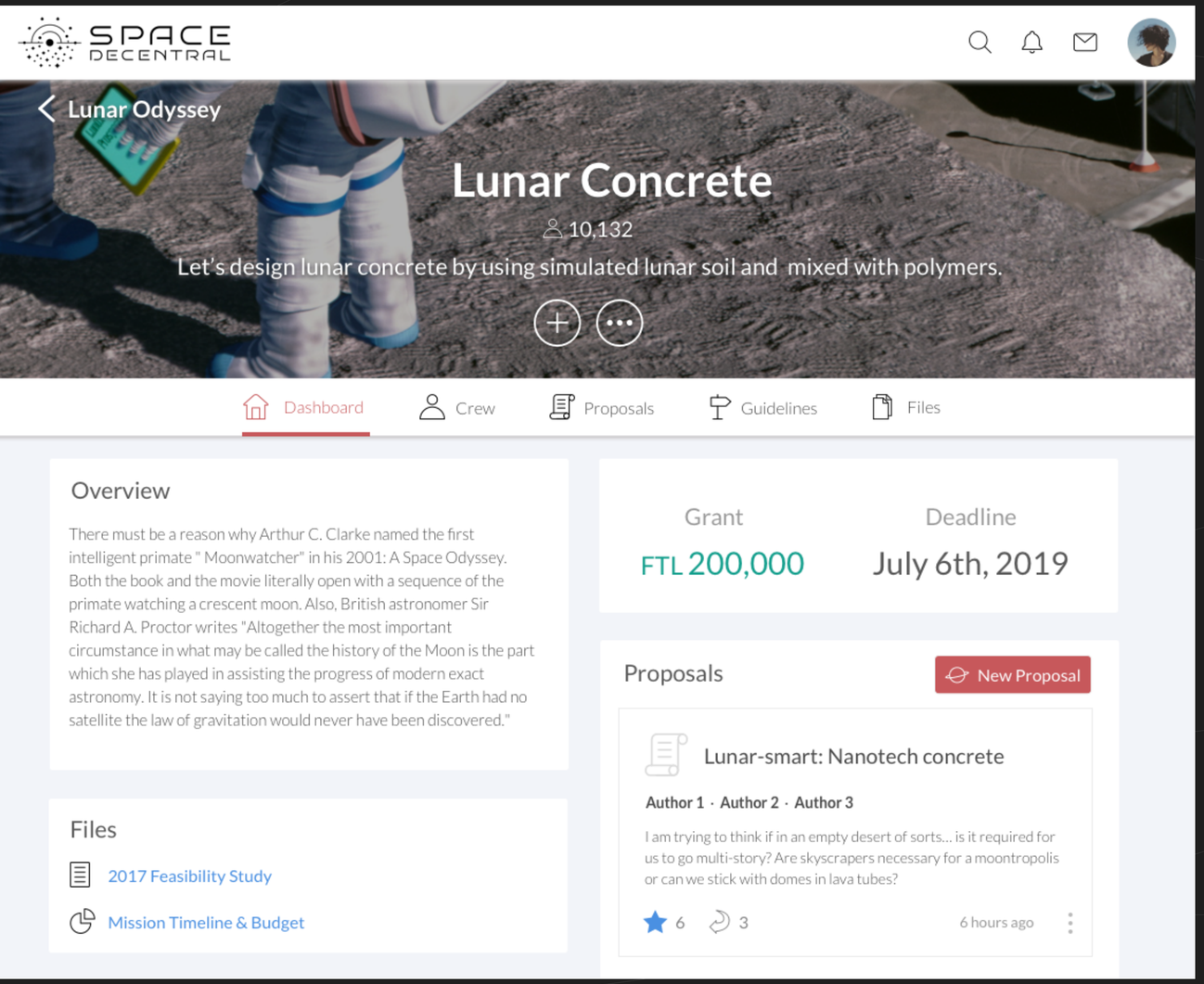
Enable everyone to contribute to a new global space agency in a permissionless manner

Resource allocation and tasks will be openly organized with encoded operational procedures

Facilitate trust with auditable work, open source smart contracts, and transparent finances.

The Space Decentral Network

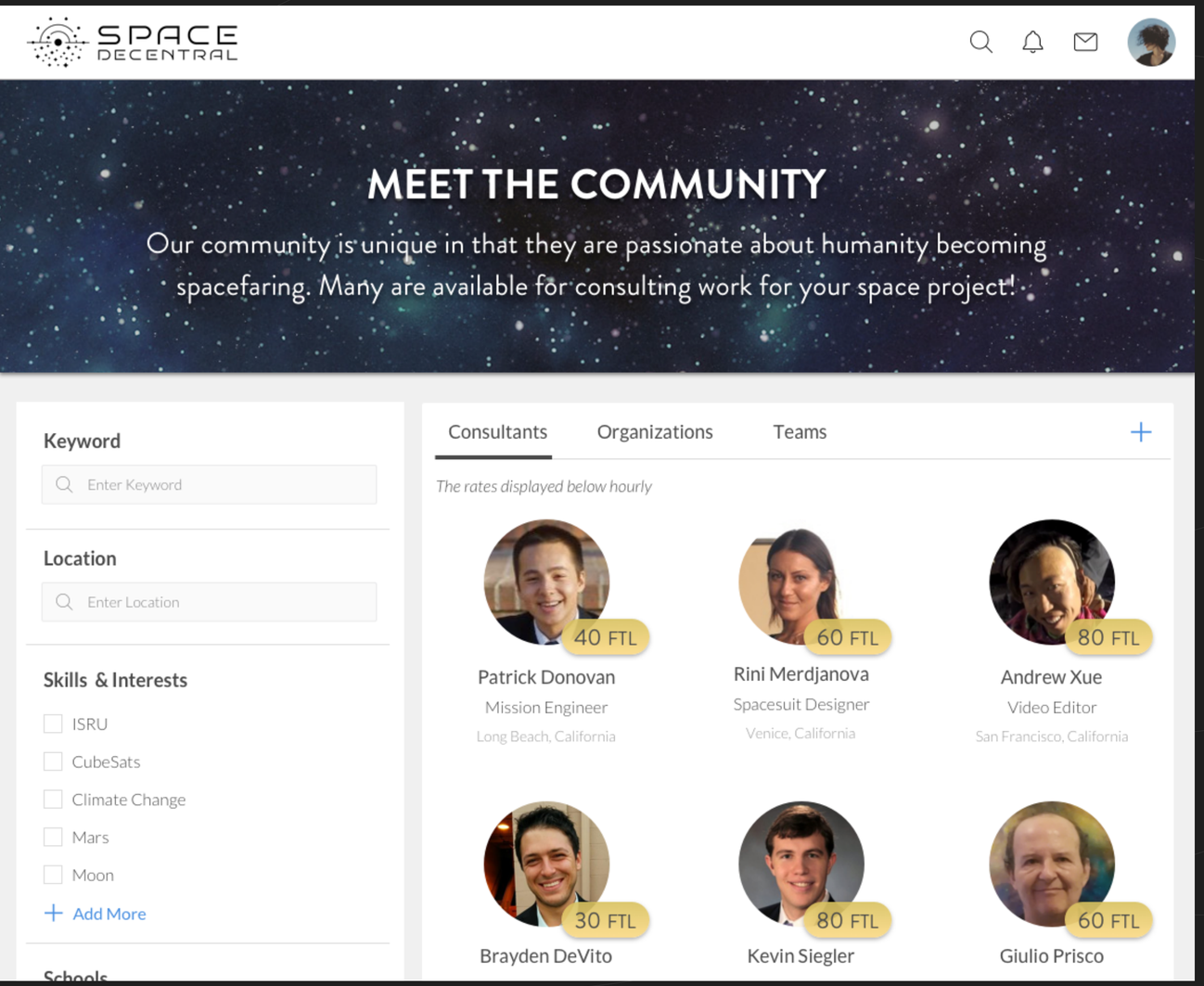
Project Landing Page



- FTL granted to proposals selected for the Space Decentral program
- Must be staking member to submit proposals, in addition to paying a fee in FTL (reduces spam and incentivizes peer review)
- Peer reviewers receive 80% of the fee; and 20% goes to the network
- Once proposal activated, greater community can help execute

The Space Decentral Network

Consultant Portal



- Staking members can offer consulting services
- Bonuses provided per job when services denominated in FTL
- Work disputes will be handled with the Aragon Network Court

Awarded $150k grant to develop Planning Suite on Aragon

Six applications that will be useful for many DAOs — including Space Decentral

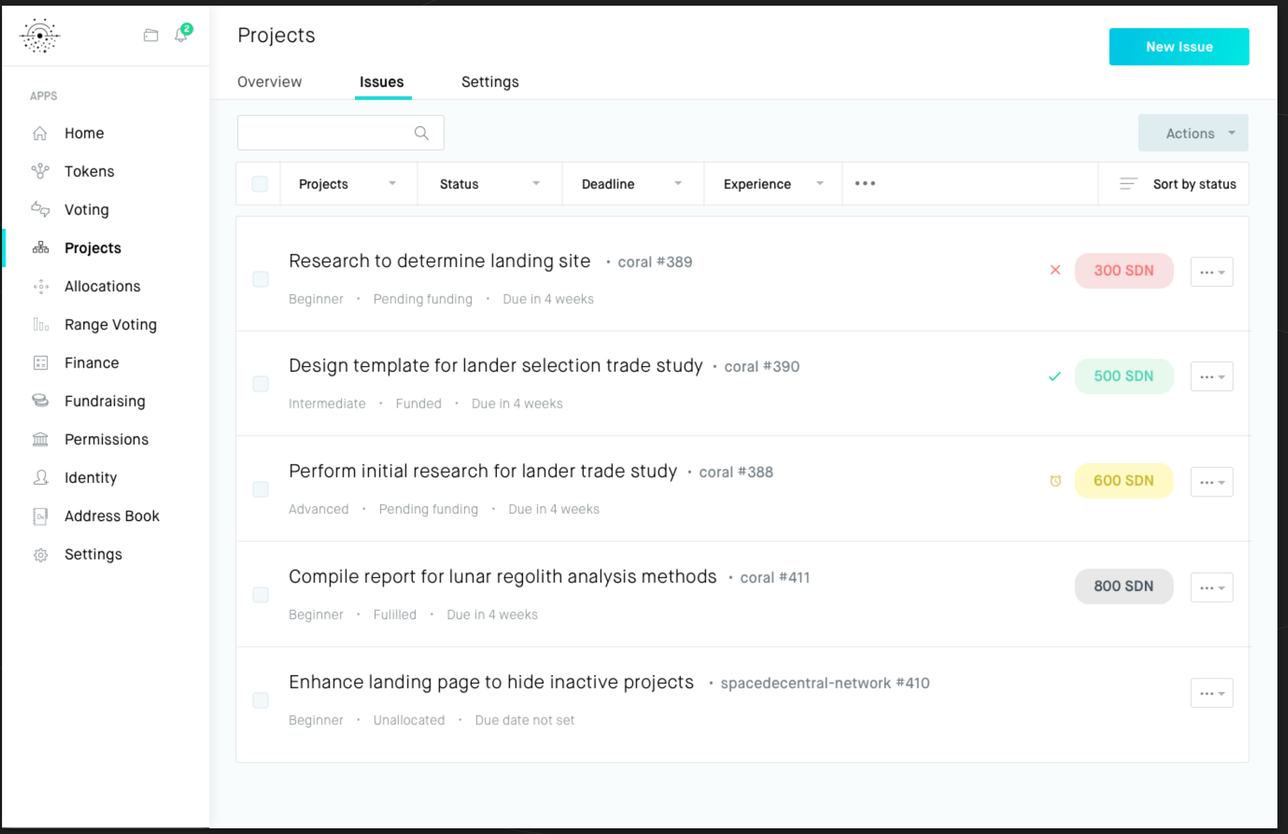
Awarded $150k Grant

April 2018

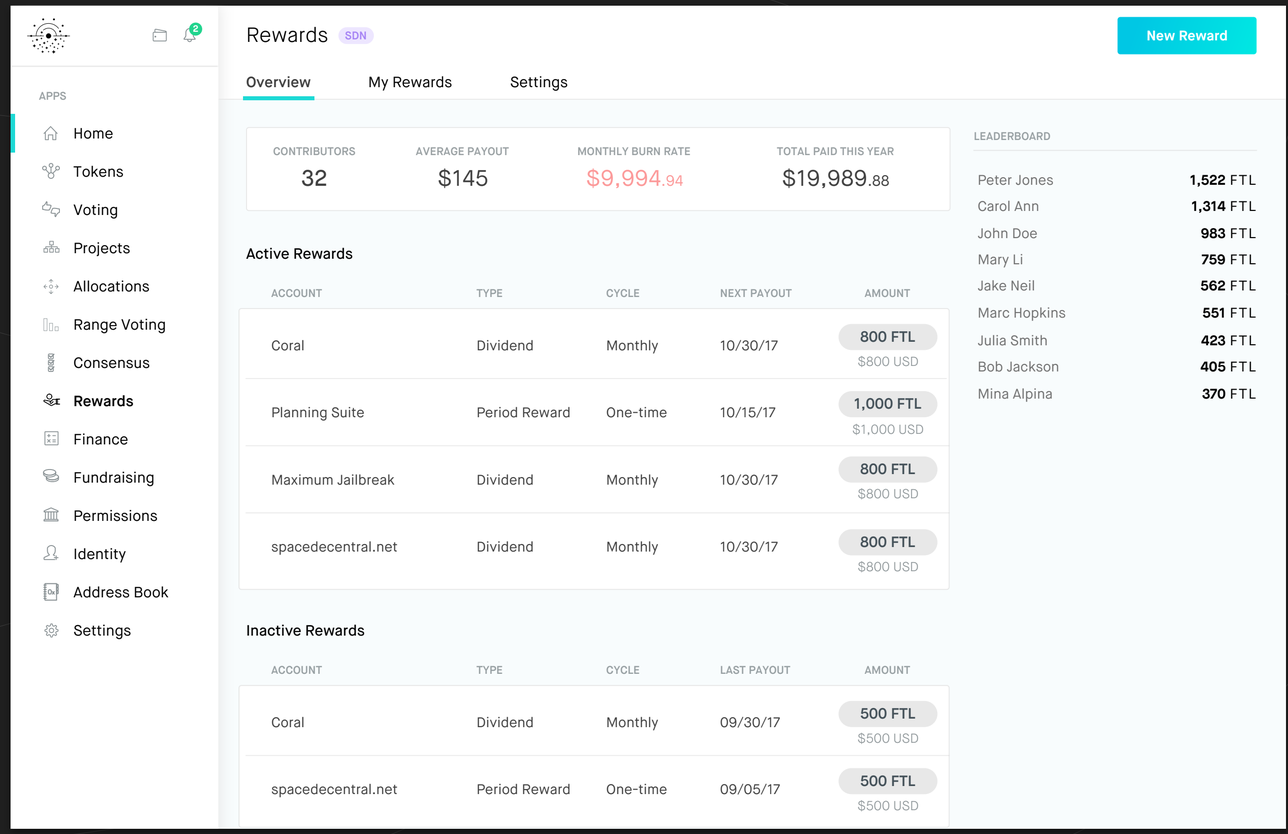
ARAGON

- **Allocations**: Propose multi-party allocations
- **Range Voting**: Vote on an allocation percentage per project, task, or person
- **Consensus**: Facilitate consensus on the value of bounty, project, or salary
- **Address Book**: Maintain a list of Ethereum addresses mapped to human-readable names
- **Rewards**: Distribute rewards based on tokens
- **Projects**: Curate issues and propose bulk-bounties

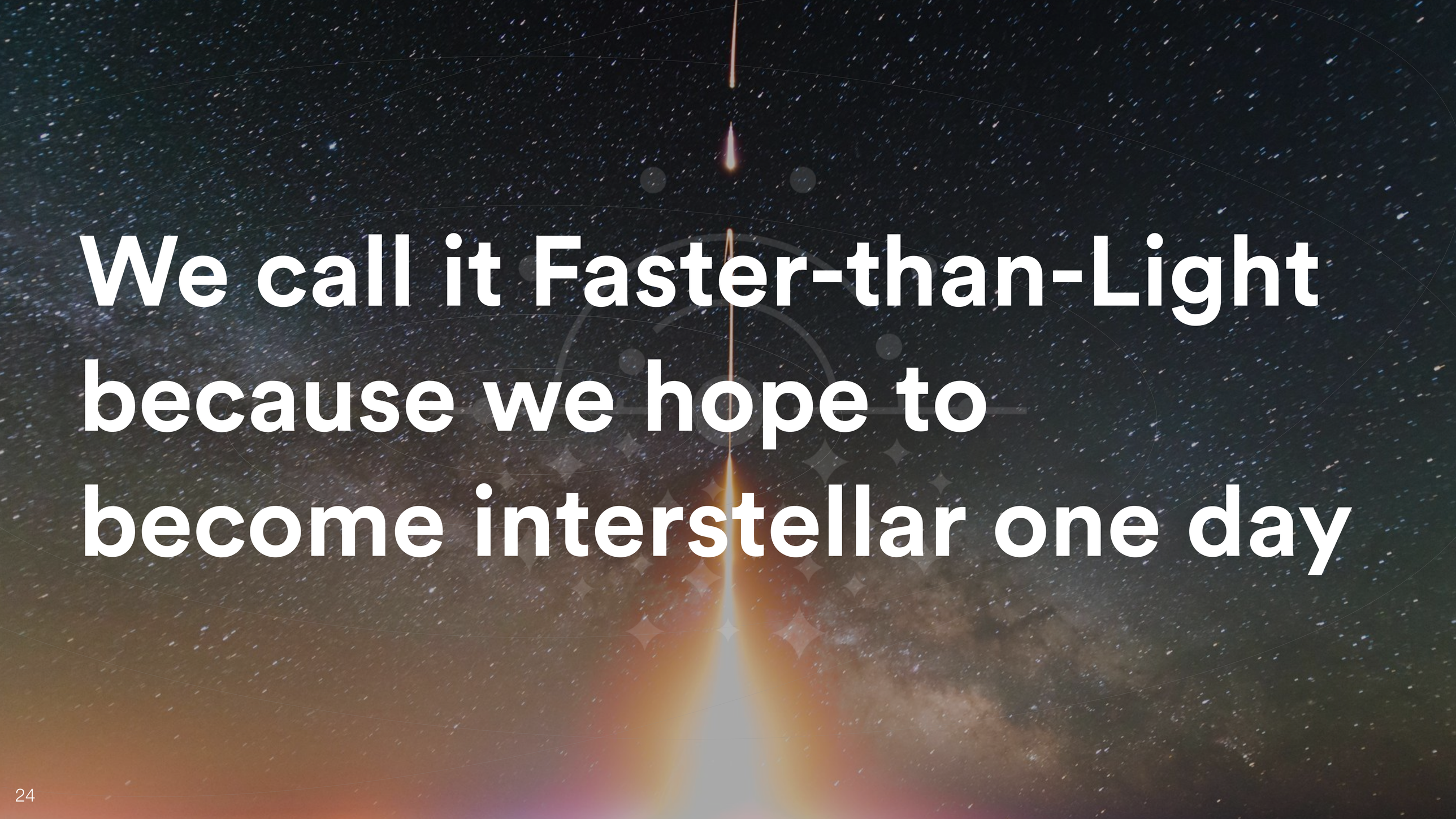
Planning Suite



Tokenized task management to create provenance of contributions



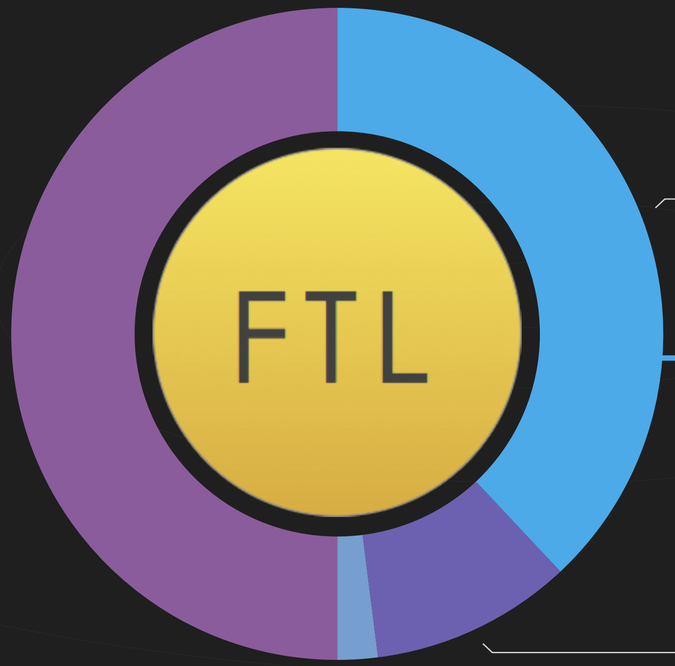
Rewards engine enables customized incentive schemes


We call it Faster-than-Light
because we hope to
become interstellar one day

FTL Token Allocation

299,792,458 tokens total

...the speed of light



Crowdsale
50%

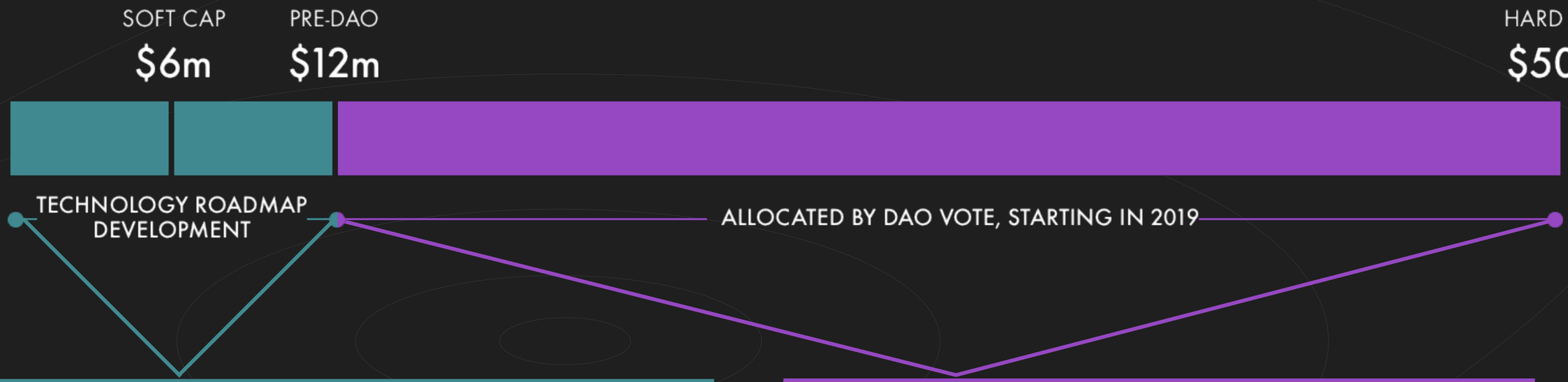
DAO Reserves
38%

Team & Advisors
10%

Early Contributors
2%

To build a thriving ecosystem, the Space Decentral DAO will transparently distribute 38% of the token supply over at least 4 years to contributors of the network's strategic plans, projects, and knowledge base. Additionally, these reserves can be sold to fund missions.

Funding Milestones



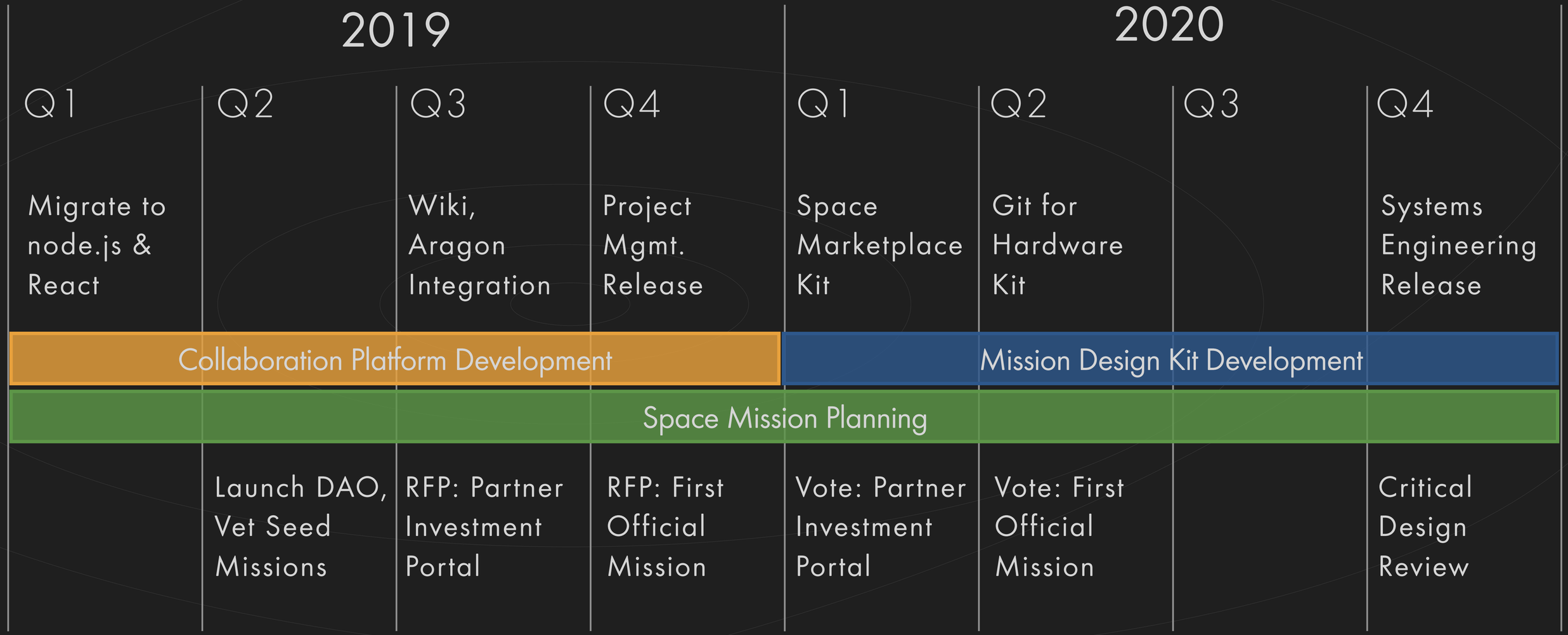
We will develop the *technology roadmap* to enable decentralized space missions.

Purchasing the FTL is the DAO's first vote to fund the "IT department" and genesis knowledge base.

This will be used to fund missions and enabling technologies.

The first actual space mission must be selected by the DAO for this space agency to be truly decentralized.

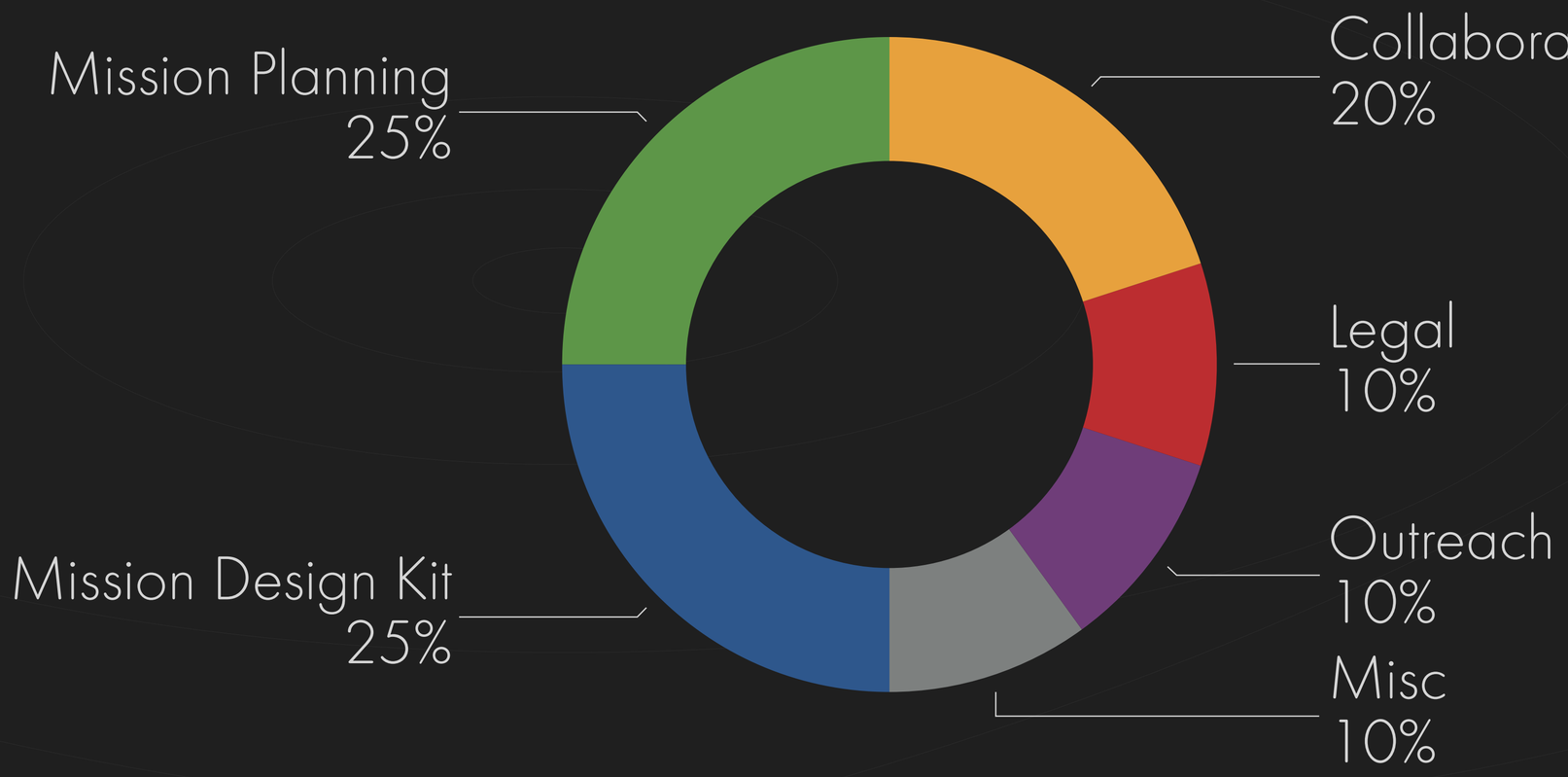
Technology Development Roadmap



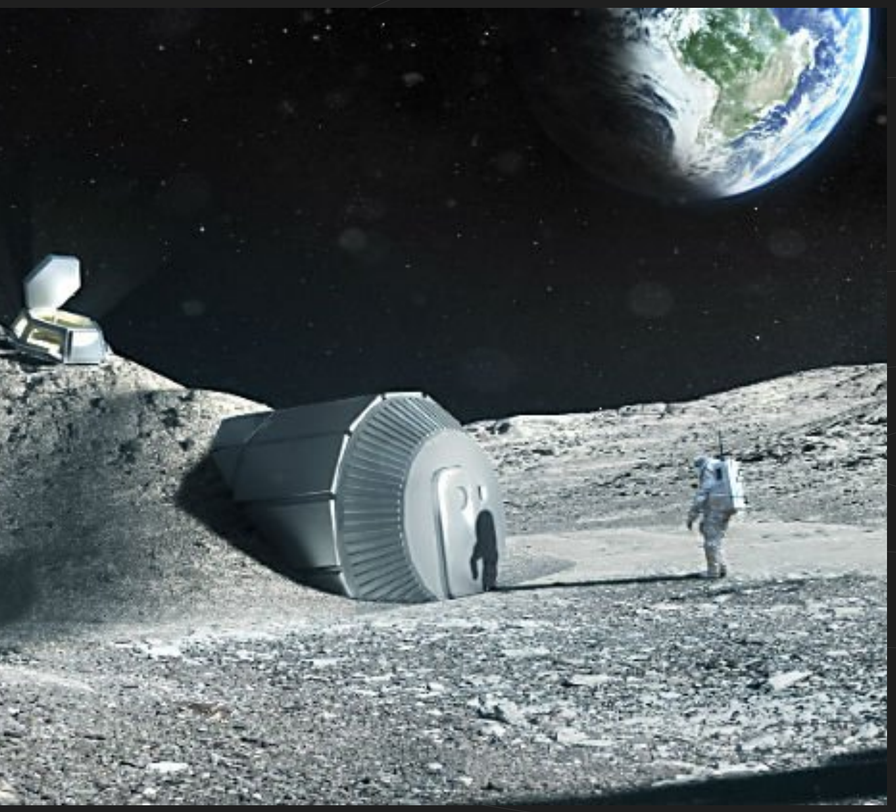
This is a tentative roadmap that is subject to change

Use of Technology Development Revenue

How the $6-$12m technology development funding will be allocated

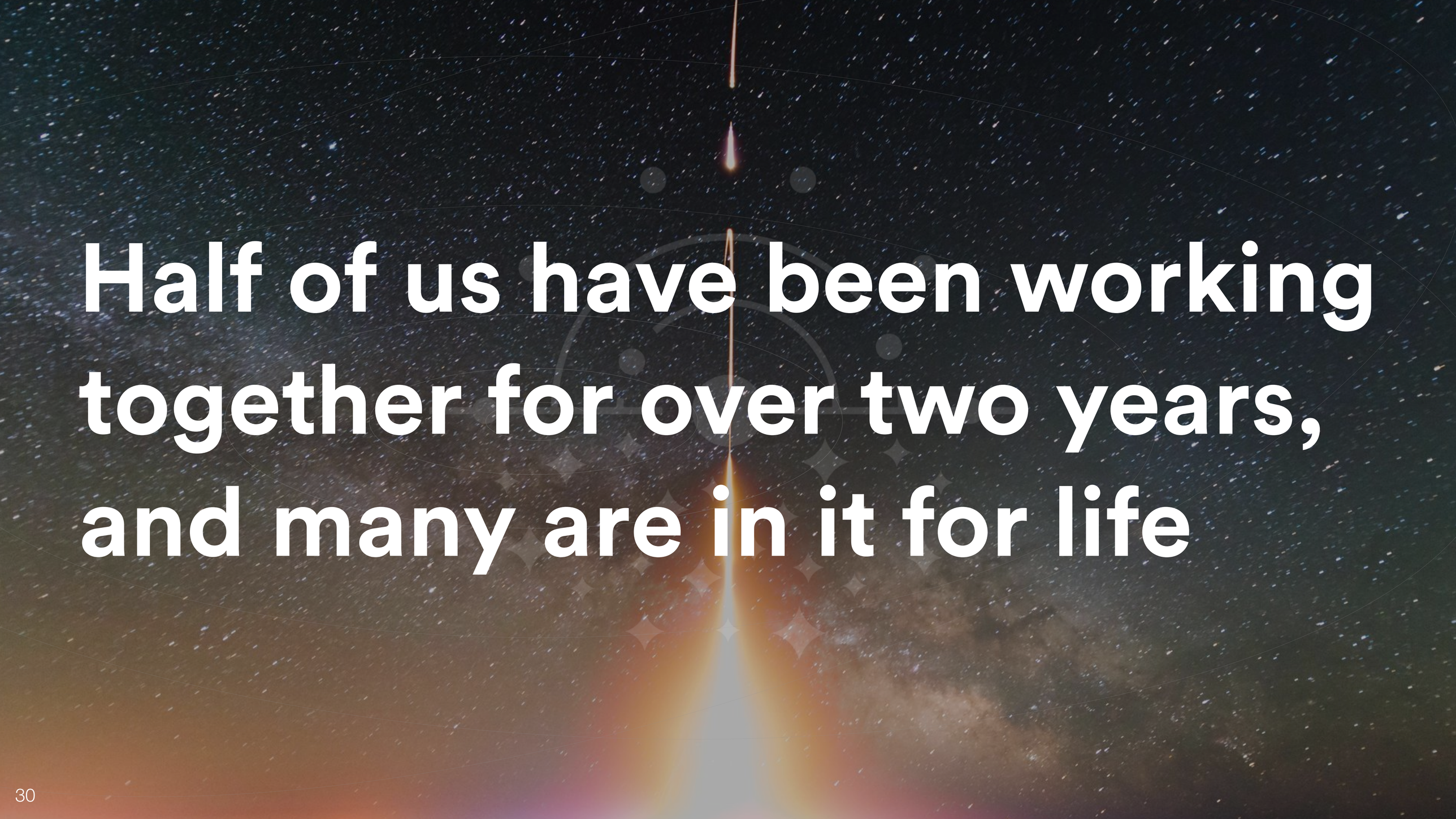


What about the other $38m?



- If hard cap reached, can immediately begin X Prize-like competition to attract an intelligent crowd
- More collaborative than X Prize, as openness is incentivized
- Even though the Lunar X Prize was $30m (and no team won), **over $300m ended up being invested** or donated to teams (10x prize amount)

FTL-stakers have privileges to become early investors in businesses incubated on the network


Half of us have been working together for over two years, and many are in it for life

Team

Yalda Mousavinia

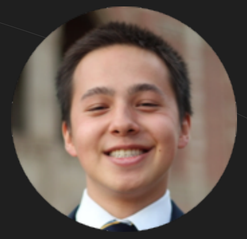
Strategic Lead

Previously Sr. PM @ Oracle, PM/UX 10 yrs, BS in Mechanical Engr. (UC Berkeley) & Astronautical Engr. Cert (UCLA).

Marc Cohen

Mission Architecture Lead

Licensed architect devoted to space architecture. Previously at NASA Ames (26 yrs), Northrop Grumman (4.5 yrs).



Patrick Donovan

Engineering Lead

Seasoned in structural design. NASA recognized for Mars ISRU concept. BS in Civil Engr. (UCLA) & licensed PE (CA).

Radek Zasiadczuk

Tech Lead, SDNetwork

Multi-skilled full stack developer, senior system administrator, DevOps. Previously at Oracle (13 yrs).

Kevin Siegler

Software Engineer

Software and smart contract developer. BS & MS in Mechanical Engr. (Northwestern). Expected MS in CS (Georgia Tech).

Suzana Bianco

Operations Lead

Seasoned architect. MBA (Fundação Getúlio Vargas). MS in Space Architecture (University of Houston).

Team

Giulio Prisco

Media Lead

Writer and futurist, covering science, tech and crypto - previously at Bitcoin Magazine. Early career at CERN, ESA.

Brayden DeVito

Manufacturing Engineer

12 yrs aerospace manufacturing and welding expert. Contributed to projects for NASA JPL and SpaceX.

Sean Marquez

Software & Systems Engineer

Smart contract developer and models-based systems engineering aficionado. BS in Mechanical Engineering (UC Irvine).

Otto Garcia

Full Stack Developer

Dapp developer. Self-taught developer and open source aficionado. Lead blockchain education programs.

Quazia

Tech Lead, Planning Suite

Software and smart contract developer. Aragon DAC dev lead. BS in Applied CS from Rochester Institute of Technology.

Advisors

Brent Sherwood

Program Manager, JPL

Space architect with 29 years of professional experience in the space industry. He has been at NASA JPL for 12 years, where he is Program Manager for planetary mission formulation. He funds and coaches teams that create and propose mission concepts for scientific exploration.

J. Simmons

President, Mach 30

Founded and serves as President of Mach 30, a non-profit dedicated to hastening the advancement of humanity into a spacefaring civilization through the development of open source spaceflight hardware. J. received his doctorate in Space Systems Engineering from the Air Force Inst. of Technology.

Paolo Tasca

Executive Director, Center for Blockchain at UCL

FinTech economist specializing in P2P financial systems. Advisor on blockchain for the EU Parliament and the United Nations. Founder and Executive Director of the Centre for Blockchain Technologies at University College London.

Interested in shaping the future of space exploration?

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