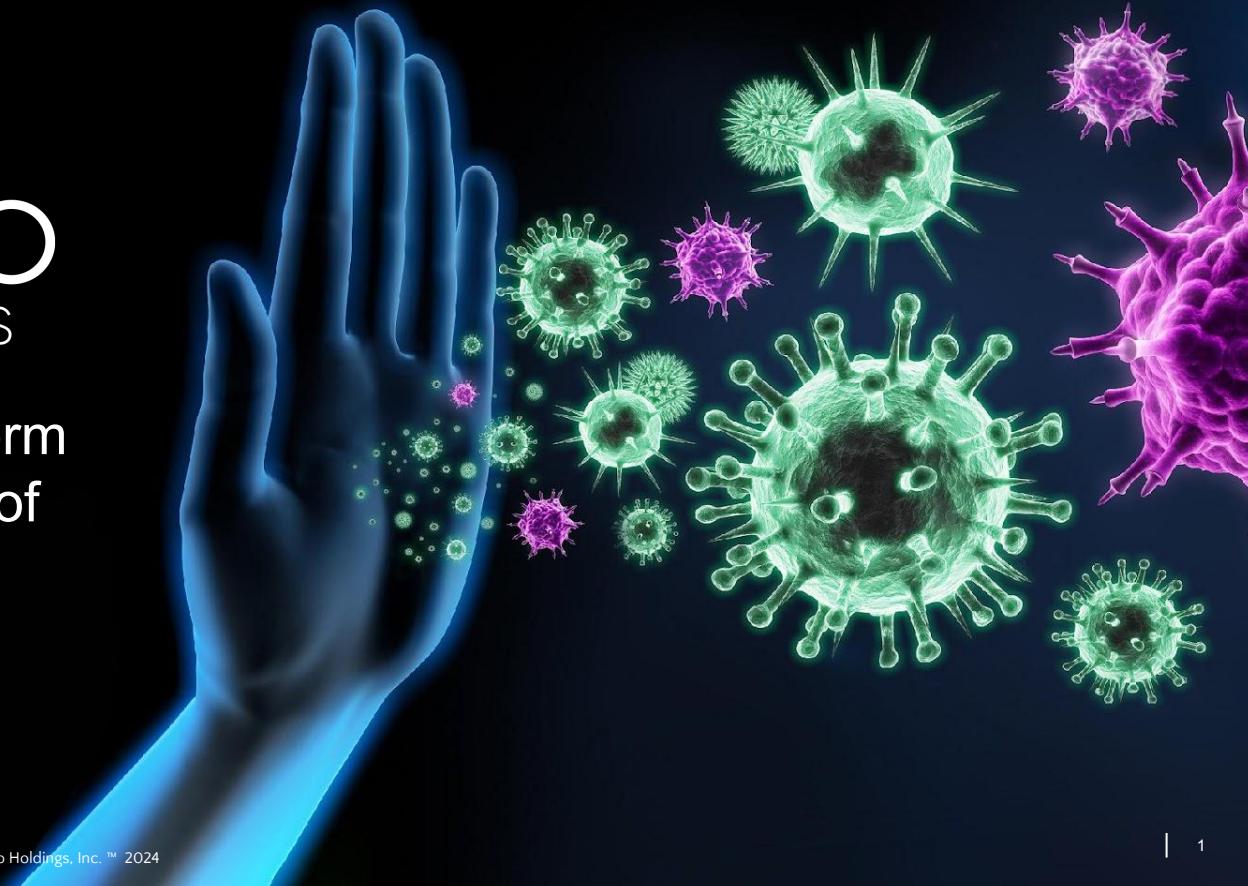


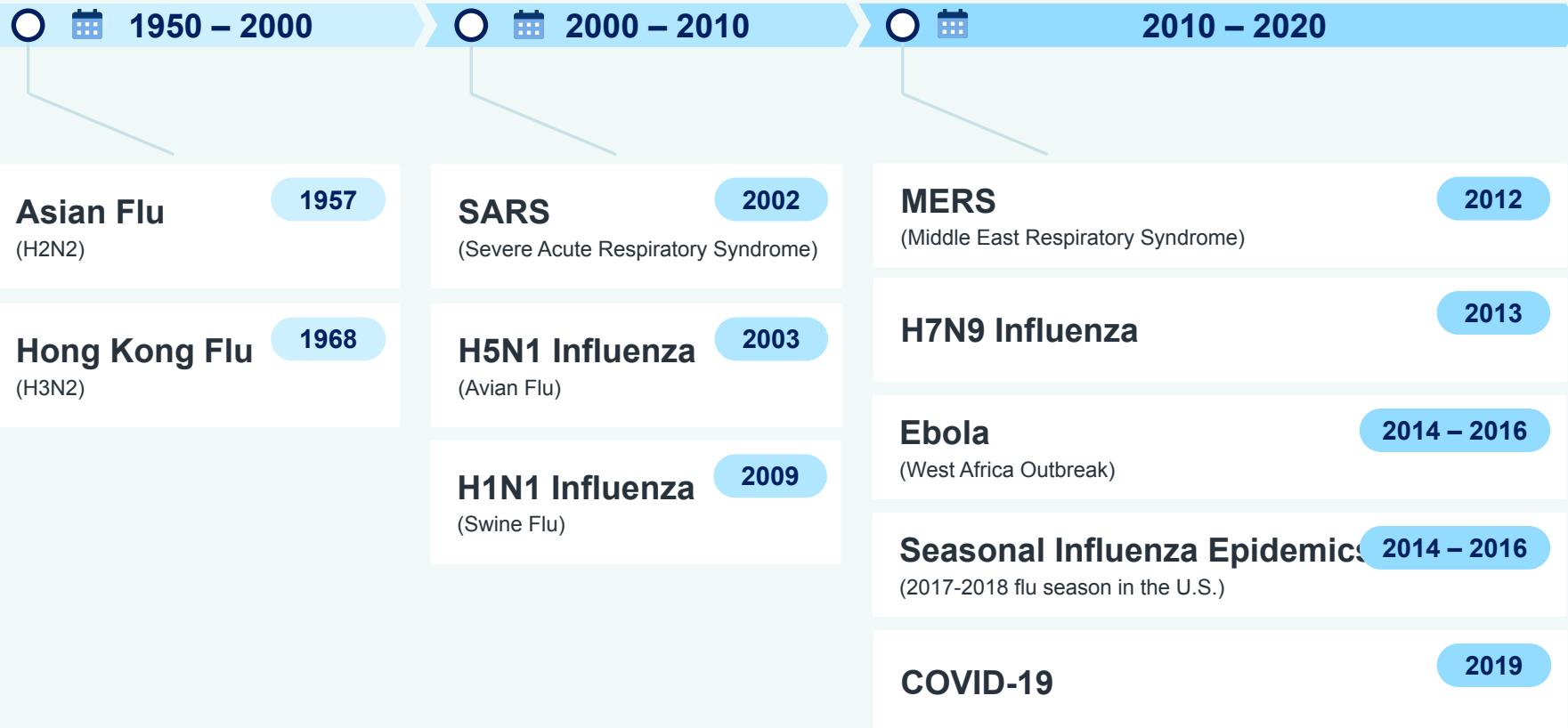


Next-Generation Platform
to Prevent the Spread of
Infectious Disease

Tom Cirrito, PhD
CEO and Co-Founder



Rapidly escalating rate of pathogen-based pandemics and epidemics



Our MIE technology enables the detection of pathogens in aerosols

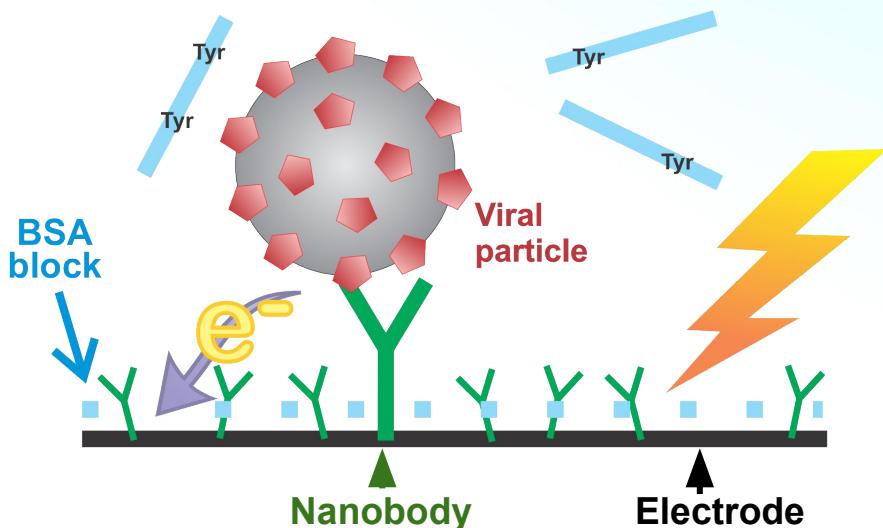


customizable multiplexing to detect multiple pathogens from a single breath or air sample - including viruses, bacteria, and fungi

Micro-immunoelectrode (MIE) Biosensor



- Pioneered by the John Cirrito and Carla Yuede at Washington University in St. Louis (WUSTL)
- 10 years proven record of success
- NIH RADx rad grants supported development
- Square-wave voltammetry to measure oxidation of tyrosine amino acids
- Sensitive: detects small quantities
- Specific: distinguishes target pathogen



Micro-Immunoelectrodes (MIEs) as platform technology



Core micro-immunoelectrode (MIE) Platform detects viral, fungal, and bacterial pathogens with the **sensitivity of PCR in 30-60 seconds.**



Simple processing,
no special training
required



Biosensor uses nanobody-based
electrodes to detect **specific
pathogens**



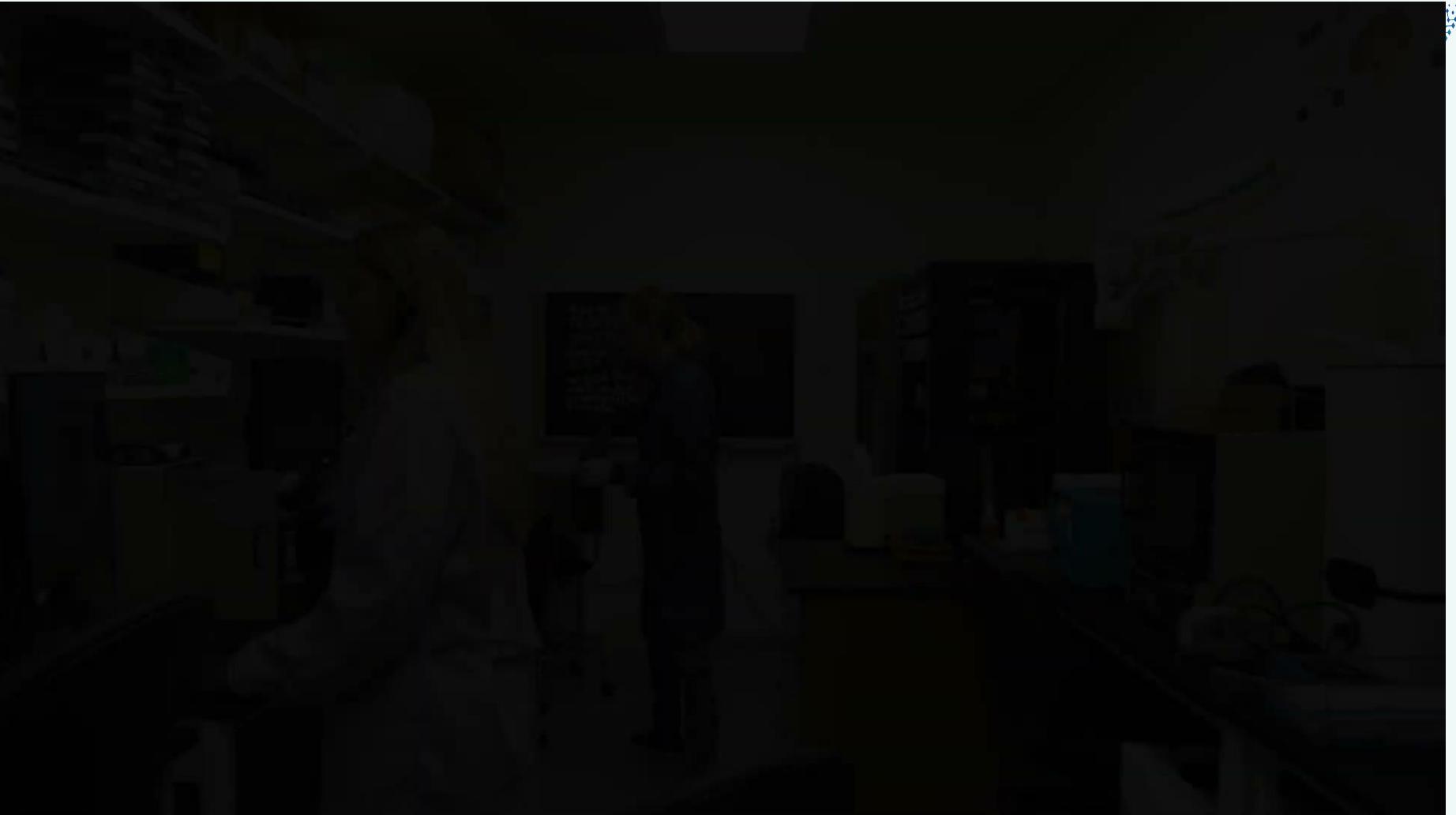
Full innovation roadmap to
multiplex electrodes capable of
detecting multiple pathogens



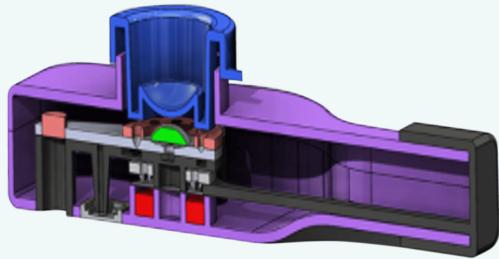
Aggregated data will be valuable
**for spotting newly emerging
pathogens**



Positioned to become the **global
standard for biodetection** with
support from an **Open Source
Community**

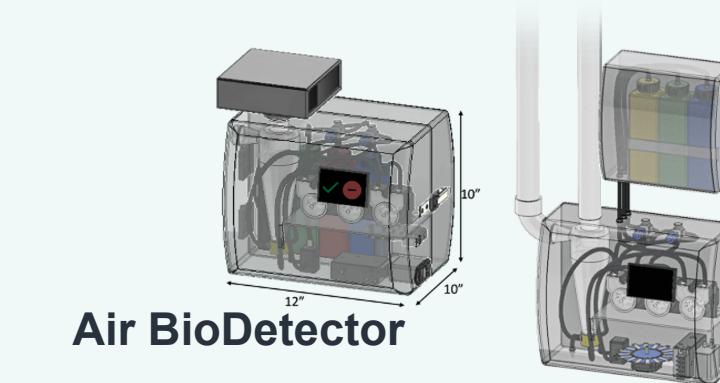


Our proprietary technology: Zero swabs with faster results



Breath-based Diagnostic

- Single use disposable device
- Results in under 60 seconds
- Simple to read results



Air BioDetector

- High-capacity indoor air test
- **Detect pathogens within 5 minutes** in average 20' x 20' room

Immediate use cases:

 Medical Facilities (Hospitals, Doctors Offices, Outpatient Centers)
 Screening (Pharmacies, Test and Treat Facilities)

 Military & High-Security Environments
 Medical Facilities (ER, Post-Surgical, Transplant, NICU)

Pre-Clinical Trials: Breath-based Diagnostic identifies COVID-positive individuals as effectively as PCR test



**Clinical Study at WUSTL
School of Medicine
launched July 2022
funded by NIH Grants:**

Total 37 subjects enrolled.

Second study complete, results confirm efficacy of device.

Third study:

Viral titers in a breath.

2 breaths collected for RT-qPCR and
2 for biosensor with minimum
4 minutes apart.



Full processing time
and results in
60 seconds.

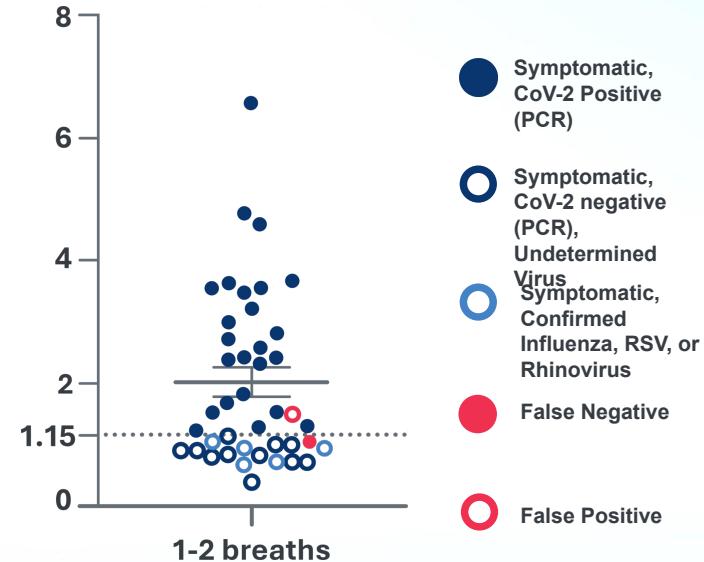


95.5%
sensitivity



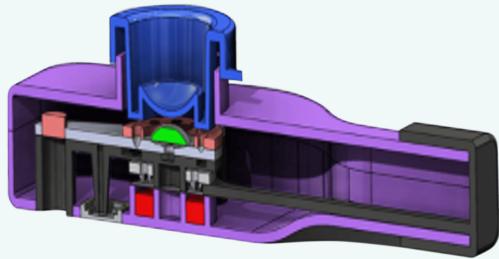
94.4%
specificity

Oxidation Current
Normalized to Control



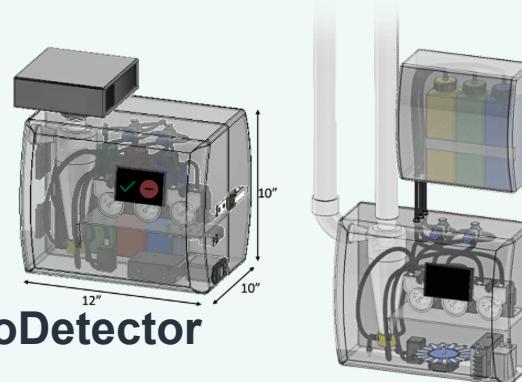
Source: Company
provided

Our proprietary technology: Zero swabs with faster results



Breath-based Diagnostic

- Single use disposable device
- Results in under 60 seconds
- Simple to read results



Air BioDetector

- High-capacity indoor air test
- **Detect pathogens within 5 minutes** in average 20' x 20' room

Immediate use cases:

 Medical Facilities (Hospitals, Doctors Offices, Outpatient Centers)
 Screening (Pharmacies, Test and Treat Facilities)

 Military & High-Security Environments
 Medical Facilities (ER, Post-Surgical, Transplant, NICU)

We focus on Democratizing Health

- Help the Many not the Few.
- Empowering the Individual.
- Impact not only the world around us but the lives of people we love.



Open-sourced MIE platform to supercharge innovation and distribution



Open source means:



Increased data sets



Faster development speed



Expanded development partnerships



Larger community to support innovation

Our commercial advantages:



First mover advantage with significant R&D ramp up
(including new clinical matrices, swabs, blood, feces, etc)



Manufacturing capacity
(highest quality MIEs at the lowest cost)



Iterative electrode formats and MIE designs



Wholly owned nanobody library for new MIE's to detect emerging pathogens



Proprietary relationships
(governments, public health officials, and epidemiological data centers)

If new threats emerge, we can produce detectors faster than any other technology



Developing new biosensors in <4 weeks



Existing diseases

SARS-CoV-2

Influenza A&B

RSV

Other viral, bacterial, and fungal pathogens

Additional testing pathways

Allergens

Microbiomes

Agricultural Diseases

Varro Receives \$20 Million from Vitalik Buterin to Support Development of Cutting-Edge Pathogen Biosensor Technology



Varro to enable improved pathogen detection worldwide by making its proprietary biosensor tech platform available via Open Source



Vitalik Buterin said, "I'm pleased to support a free and open-source hardware (FOSH) business that will both develop crucial tools for preventing the next pandemic, as well as pioneer a new paradigm of free and open-source hardware development that can enable widely distributed access to tools for personal health and beyond. A d/acc future is one where everyone can verify that the air they breathe is clean and free from airborne pathogens."



Fund Deployment

Air Quality
Monitor
Advancement



MIE
Development



Real-time Diagnostics & Detection of Respiratory Pathogens



Contact

Thomas Cirrito, PhD
Tom@VarroBio.com

www.VarroBio.com

Section 1

Section 1 title here.

Enter your main point / statement here.

Section 1 details with a main point. Enter title here.

Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Section 2

Section 2 title here.

Section 2 details with a main point. Enter title here.

Section 3

Section 3 title here.

Enter your main point / statement here.

Section 3 details with a main point. Enter title here.

Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Section 4

Section 4 title here.

Section 4 details with a main point. Enter title here.

**Enter your main point /
statement here.**

**Enter your main point /
statement here.**

Here's the timeline.

Event 1



Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

Event 2



Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

Event 3



Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

99.99%

“Number rules the universe.”
— Pythagoras

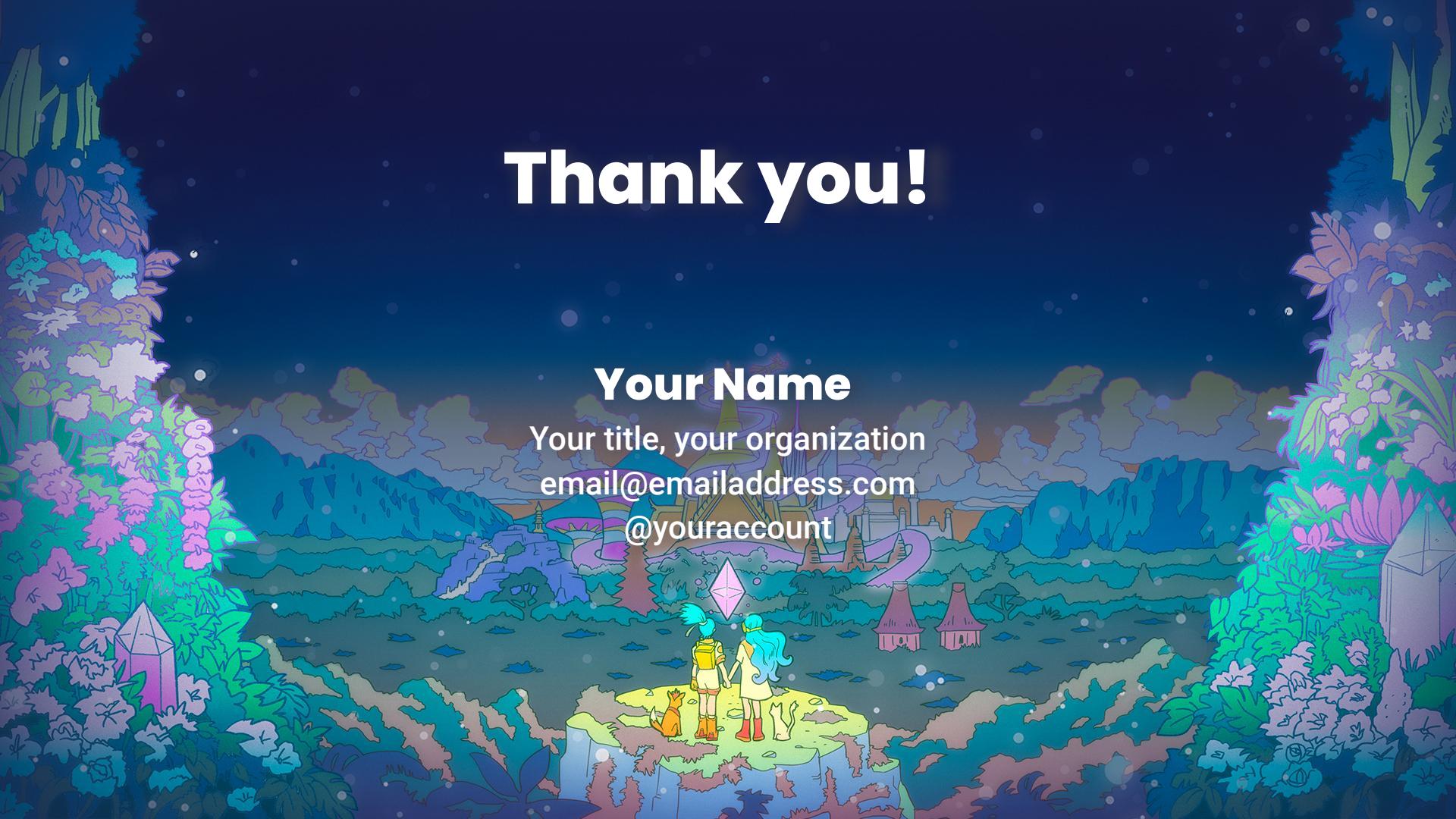
Thank you!

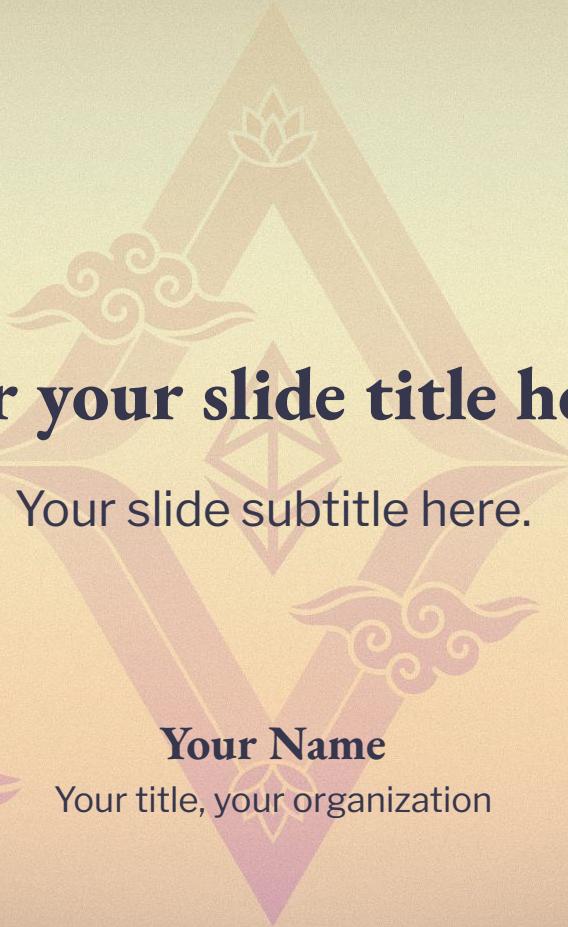
Your Name

Your title, your organization

email@emailaddress.com

[@youraccount](https://twitter.com/@youraccount)





Enter your slide title here

Your slide subtitle here.

Your Name

Your title, your organization





Section 1 title here.



Section 1 details with an image. Enter title here.

Lorem ipsum dolor sit amet, consectetur
 adipiscing elit, sed do eiusmod tempor incididunt
 ut labore et dolore magna aliqua. Ut enim ad
 minim veniam, quis nostrud exercitation ullamco
 laboris nisi ut aliquip ex ea commodo consequat.
 Duis aute irure dolor in reprehenderit in voluptate
 velit esse cillum dolore eu fugiat nulla pariatur.

Section 1 title here.

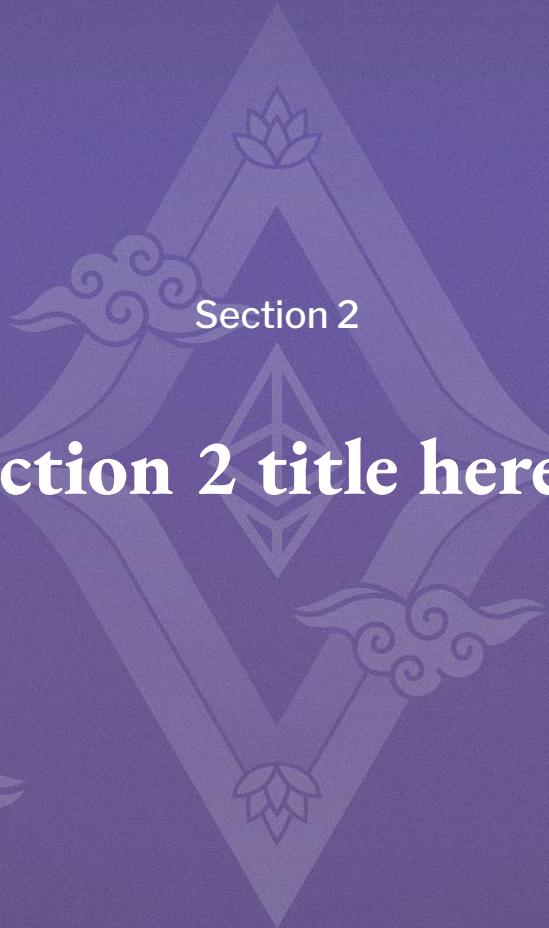
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

- Sollicitudin
 - Consectetur
 - Condimentum
 - Magna
 - Ligula

Enter your main point / statement here.

Section 1 details with a main point. Enter title here.

Lorem ipsum dolor sit amet, consectetur
 adipiscing elit, sed do eiusmod tempor incididunt
 ut labore et dolore magna aliqua. Ut enim ad
 minim veniam, quis nostrud exercitation ullamco
 laboris nisi ut aliquip ex ea commodo consequat.
 Duis aute irure dolor in reprehenderit in voluptate
 velit esse cillum dolore eu fugiat nulla pariatur.



Section 2 title here.



Section 2 title here.

Lorem ipsum dolor sit amet, consectetur
 adipiscing elit, sed do eiusmod tempor incididunt
 ut labore et dolore magna aliqua.

- Sollicitudin
 - Consectetur
 - Condimentum
 - Magna
 - Ligula

Lorem ipsum dolor sit amet, consectetur
 adipiscing elit, sed do eiusmod tempor incididunt
 ut labore et dolore magna aliqua.

- Sollicitudin
 - Consectetur
 - Condimentum
 - Magna
 - Ligula



Section 2 details with an image. Enter title here.

 Lorem ipsum dolor sit amet, consectetur
 adipiscing elit, sed do eiusmod tempor incididunt
 ut labore et dolore magna aliqua. Ut enim ad
 minim veniam, quis nostrud exercitation ullamco
 laboris nisi ut aliquip ex ea commodo consequat.
 Duis aute irure dolor in reprehenderit in voluptate
 velit esse cillum dolore eu fugiat nulla pariatur.

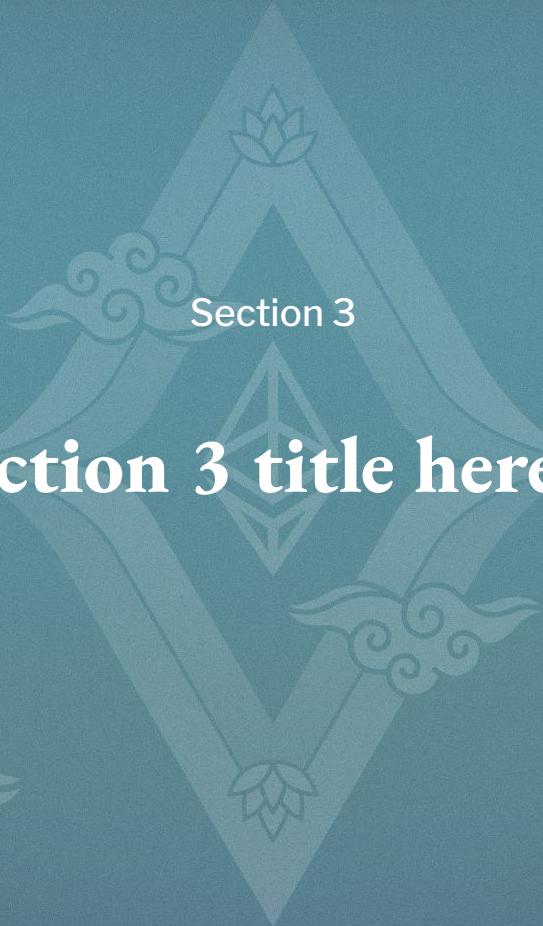


Section 2 details with a main point. Enter title here.

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

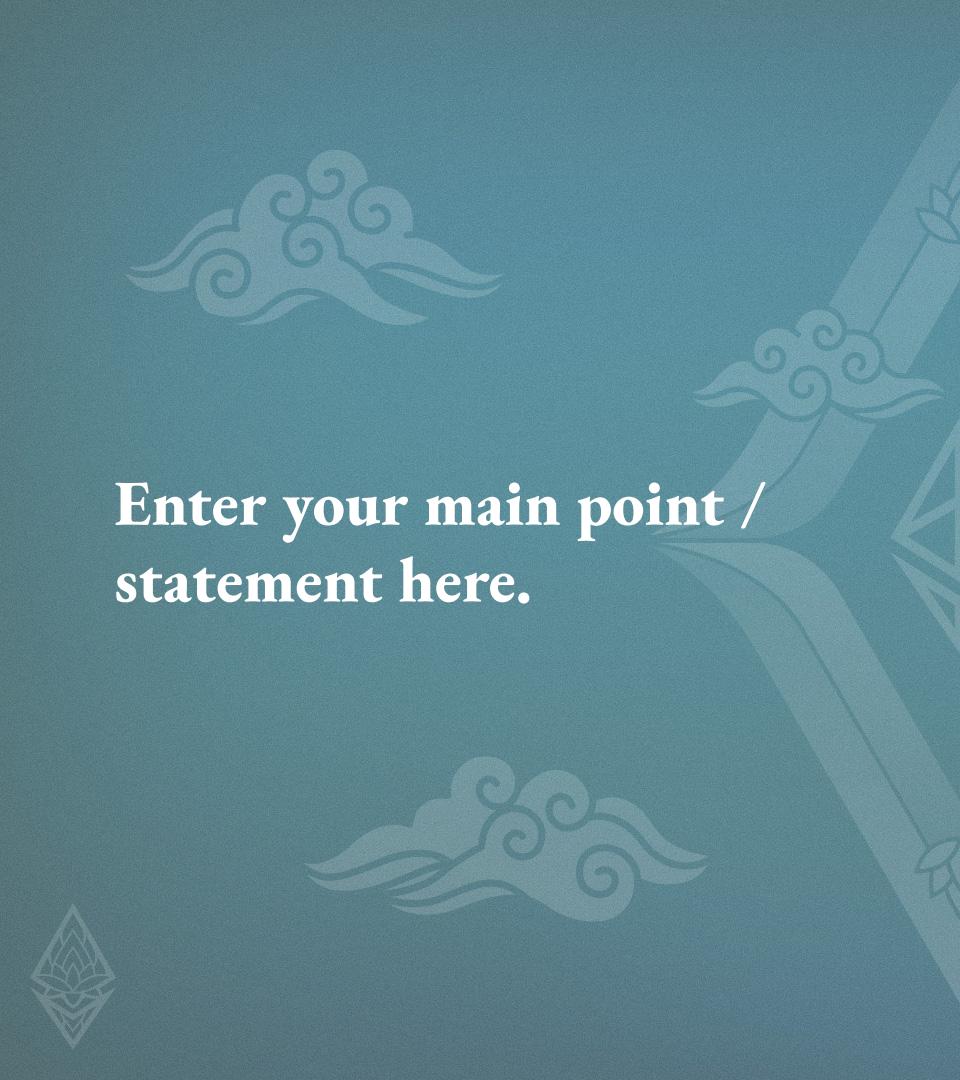
Enter your main point / statement here.





Section 3 title here.





**Enter your main point /
statement here.**

Section 3 details with a main point. Enter title here.

*Lorem ipsum dolor sit amet, consectetur
 adipiscing elit, sed do eiusmod tempor incididunt
 ut labore et dolore magna aliqua. Ut enim ad
 minim veniam, quis nostrud exercitation ullamco
 laboris nisi ut aliquip ex ea commodo consequat.
 Duis aute irure dolor in reprehenderit in voluptate
 velit esse cillum dolore eu fugiat nulla pariatur.*





Section 4

Section 4 title here.



Section 4 details with a main point. Enter title here.

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

Enter your main point / statement here.



Enter your main point / statement here.

Here's the timeline.



Event 1



 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

Event 2



 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

Event 3



 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.



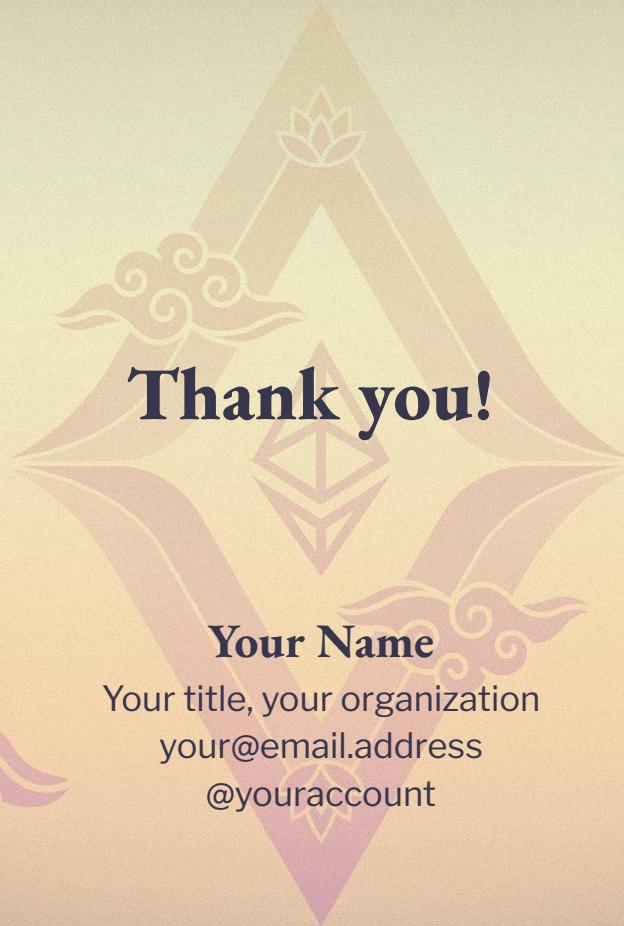


99.99%

“Number rules the universe.”

— Pythagoras





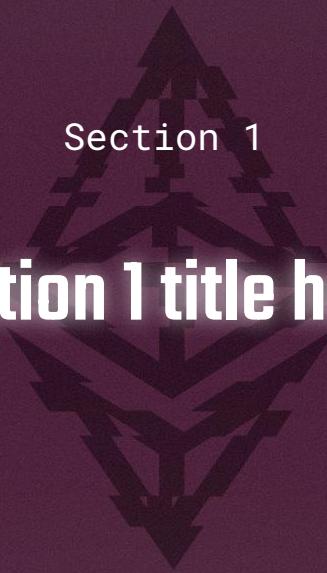


Enter your slide title here

Your slide subtitle here.

Your Name

Your title, your organization



Section 1

Section 1 title here.

Section 1 title here.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

- Sollicitudin
 - Consectetur
 - Condimentum
 - Magna
 - Ligula

Section 1 details with an image.

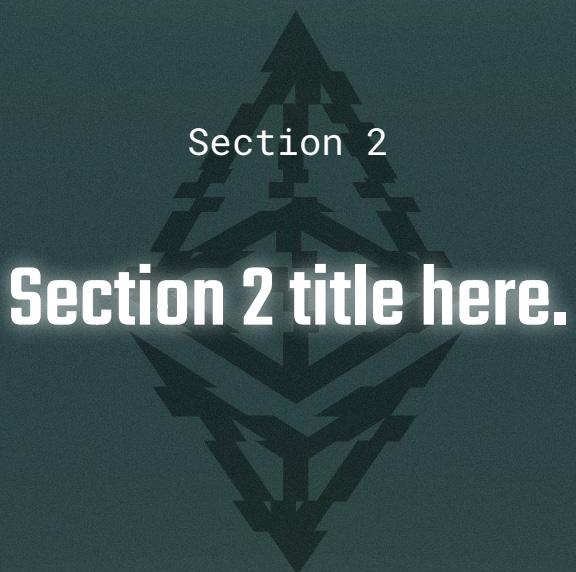
Enter title here.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

**Enter your main point /
statement here.**

Section 1 details with a main point. Enter title here.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.



Section 2

Section 2 title here.

Section 2 title here.

 Lorem ipsum dolor sit amet,
 consectetur adipiscing elit, sed do
 eiusmod tempor incididunt ut labore et
 dolore magna aliqua.

- Sollicitudin
- Consectetur
 - Condimentum
 - Magna
 - Ligula

 Lorem ipsum dolor sit amet,
 consectetur adipiscing elit, sed do
 eiusmod tempor incididunt ut labore et
 dolore magna aliqua.

- Sollicitudin
- Consectetur
 - Condimentum
 - Magna
 - Ligula

Section 2 details with an image.

Enter title here.

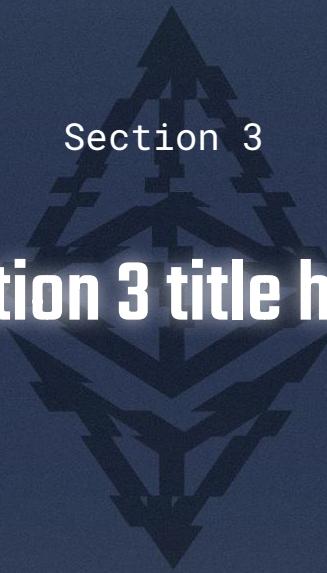
 Lorem ipsum dolor sit amet,
 consectetur adipiscing elit, sed do
 eiusmod tempor incididunt ut labore
 et dolore magna aliqua. Ut enim ad
 minim veniam, quis nostrud
 exercitation ullamco laboris nisi ut
 aliquip ex ea commodo consequat. Duis
 aute irure dolor in reprehenderit in
 voluptate velit esse cillum dolore eu
 fugiat nulla pariatur.

Section 2 details with a main point. Enter title here.

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.



Enter your main point / statement here.



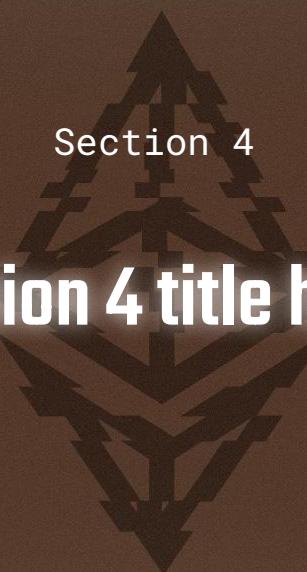
Section 3

Section 3 title here.

Enter your main point /
statement here.

Section 3 details with a main point. Enter title here.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.



Section 4

Section 4 title here.

Section 4 details with a main point. Enter title here.

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.



**Enter your main point /
statement here.**

Enter your main point / statement here.

Here's the timeline.

Event 1

A horizontal timeline line with three circular markers. The first marker is pink, the second is blue, and the third is brown. The text for each event is positioned below its respective marker.
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

Event 2

A horizontal timeline line with three circular markers. The first marker is pink, the second is blue, and the third is brown. The text for each event is positioned below its respective marker.
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

Event 3

A horizontal timeline line with three circular markers. The first marker is pink, the second is blue, and the third is brown. The text for each event is positioned below its respective marker.
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

99.99%

“Number rules the universe.”
– Pythagoras



Your title, your organization
your@email.address
@youraccount