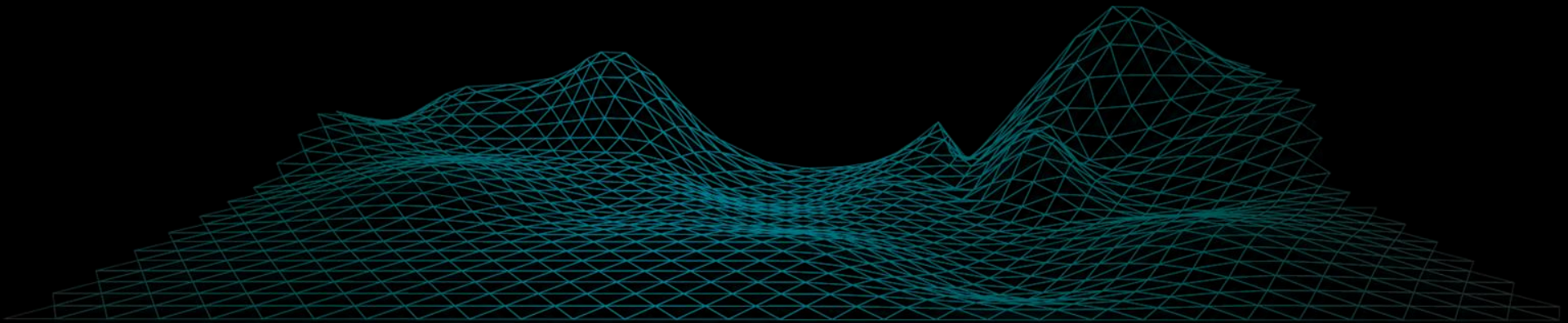
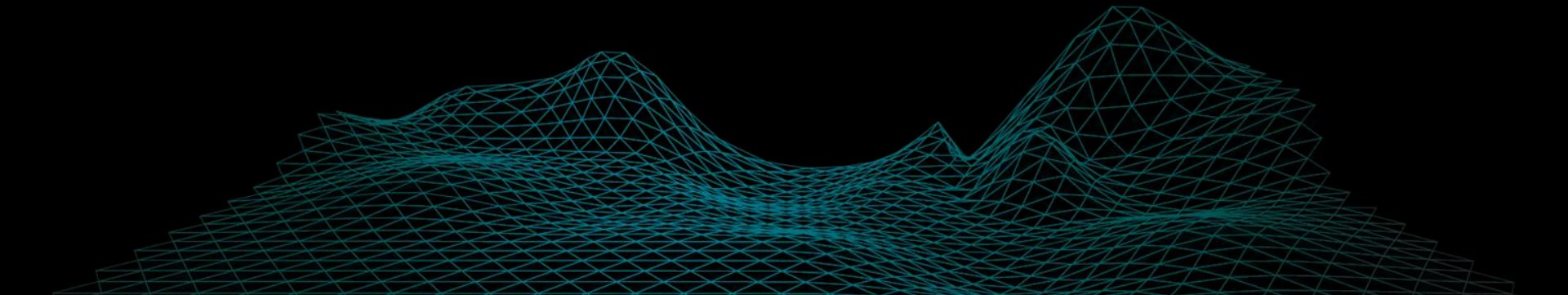
INNOVATION LABS

Open challenges

Outcomes of the Ideation Workshops by Innovation Labs in Collaboration with NXP Semiconductors & EVIDEN

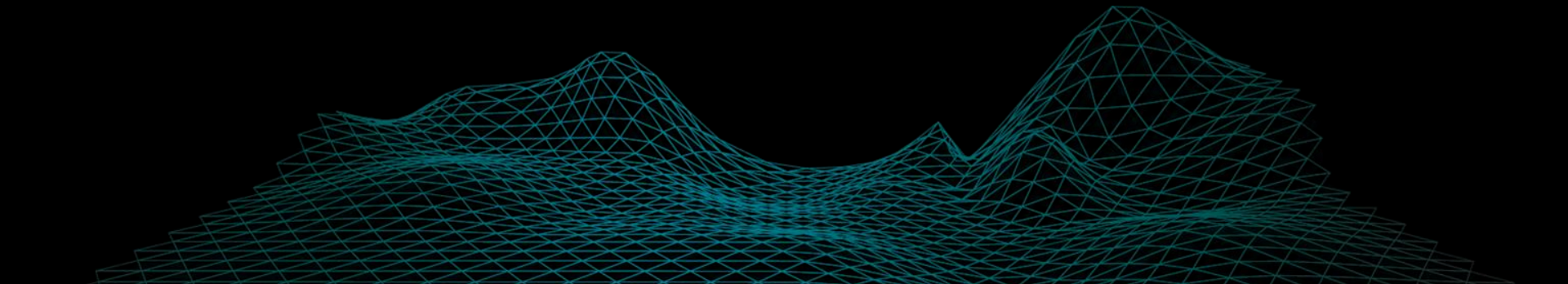


Feeling a bit uninspired,
but confident in your skills
to turn ideas into successful startups? 🚀



Don’t worry, we’ve got you covered!

Feel free to use these ideas as inspiration, extend them to something you like or adopt them as your own to #makeitreal! 🏆



1. Security advisory tool

EVIDEN

1. Customer
mass-usage in partnership with B2B

2. Problem/Need
When users are buying services or digital goods, they rarely proactively screen their access and usage experience

4. Technical sketch + Resources/ technology needed
Generative AI model trained with a test practice security sets for targeted platforms (or class of apps/services). By conversational means, the trained AI can suggest step-by-step guidance to apply security controls / configs. Ideally, the app can apply configurations automatically based on the trained knowledge.

For Azure, you can apply a minimal strategy by Bing conversation.

3. Solution/ offering
Application / communication bot

5. How to experiment & test?
Get an untrained group to secure an offer of subscription for a small company and compare results with a professional team.
Anything >60% is awesome!

6. How radical or disruptive?
Enables non-trained personas to secure their environment, asset and experience.

2. Non-UID-addressing

EVIDEN

1. Customer
end-user on retail or employees of big companies

2. Problem/Need
Users shall not type in credentials to access digital services. Endpoints and users shall not be addressable by an UID or global ID rather a contextual-based identifier.

3. Solution/ offering
a different way of identifying users. Product should be a mobile app with one time payment or yearly subscription

4. Technical sketch + Resources/ technology needed
A. You can intercept app registrations/logins of an individual, store its credential in an identity vault. You can develop different authentication strategies using different sensors or/and behavioural analytics to proof user and confirmation of action.
B. Based on ingested or outbound traffic sand endpoint analysis, identify it regardless of its IP or FQDN in a network. This has an application in express routes and dynamic routing and helps endpoints to keep communications alive regardless of address changes.

5. How to experiment & test?
accessing a website, application or remote console, user is prompted to allow access to user and application presents authenticated user.

6. How radical or disruptive?
Allow access to non-technical non-trainer humans to digital services in a secure way. Allows cross-domain/ dynamic network security consolidation for endpoints.

3. Gamified cyber security trainings

EVIDEN

1. Customer employees in digital companies & students	**4. Technical sketch + Resources/ technology needed** → Access management system → Users that unlock achievements and rewards by playing a list of games. A. Web platform (HTML/CSS) or Ruby or Bootstrap with DB SQL or MongoDB, Unity, Javascript B. Android/iOS app	
2. Problem/Need Lack of cybersecurity culture, understanding cybersecurity, best practices		
3. Solution/ offering platforms that gamifies learning Similar solutions: TryHackMe, Habitica, Duolingo	**5. How to experiment & test?** Focus groups of non-tech persons but with digital skills.	**6. How radical or disruptive?** Non-disruptive, useful to start building security skills

4. Automatic code-review and refactoring

EVIDEN

1. Customer tech companies, outsourcing companies	**4. Technical sketch + Resources/ technology needed** Based on existing code and on stored solutions - can also use AI. Type oriented languages (compile is must be a phase of solution) - language to do this for: Java	
2. Problem/Need Code refactoring based on good practices templates/ quality test results or assistance for code quality.		
3. Solution/ offering plugin into an automation process for an IDE.	**5. How to experiment & test?** Sonarqube user to identify the problems, run the application, use again Sonarqube to quantify the result.	**6. How radical or disruptive?** Mildly disruptive

5. Household power energy consumption prediction at the edge

1. Customer
Home owners, end user of IoT devices

2. Problem/Need
Time scheduling to optimize power consumption of IoT devices (smart devices) →decisions suggested by AI

3. Solution/ offering
A central unit connected to all smart devices that takes decisions based on available energy (cost efficiency) and consumer requirements.

4. Technical sketch + Resources/ technology needed
i.MX8 MPlus / i.MX93 + NPU unit for AI processing + Wi-Fi + BLE + thread-matter compatible
Indications:

- Connect to either home assistant or directly to devices
- Manage all devices and schedule them
- AI will make suggestions or take actions based on:
- Weather prediction (high power production for solar panels)
- Time of the day/week to avoid fees
- Actual consumption (avoid overload)
- Personal preferences
- AI will create a profile (nice to have)

5. How to experiment & test?
Your house
Friends houses

6. How radical or disruptive?

6. Power consumption prediction renewable energy

1. Customer
German DSOs, L&G, itron, honeywell

2. Problem/Need
Renewable energy is unpredictable. The cost to buy energy at spot prices is high → AI prediction of household consumption is needed

4. Technical sketch + Resources/ technology needed
i.MX RT or MCX - reference design for emeter

Deploy edge AI algorithms to analyze consumer energy behaviour, make quarterly or yearly prediction of external energy needed.

3. Solution/ offering
Predict using residential emeter the consumer behaviour and energy consumption of the household. Software algorithm using AI on top of NXP emeter (i.MXRT)

5. How to experiment & test?
Sell software solution at metrology / power energy events, to DSO

Test at your home

6. How radical or disruptive?
Disruptive

7. App for unifying all payments app for EV charging

1. Customer
Electric vehicle owners or rentals

2. Problem/Need
Lots of different apps and virtual wallets needed to charge your EV

4. Technical sketch + Resources/ technology needed
Mobile application to have the map of all charging station:

- To show discounts from various EV charging companies
- To create routes depending on price or battery availability

3. Solution/ offering
A central wallet and mobile app to aggregate all this and offer a unified approach

5. How to experiment & test?

6. How radical or disruptive?
Not radical, but needed

8. Digital twin models for cars in cloud

1. Customer
NXP, NXP customers

2. Problem/Need
Pre-silicone environments needed in order to massively decrease time to market - customers need fast solutions way before NXP silicone timeline → digital twin at chip level

4. Technical sketch + Resources/ technology needed

Tech to be used:
- Cloud
- Python (devops)

Virtual model will be in cloud -> enabling OTA

3. Solution/ offering
Cloud solution for devops (in cloud)
Given:
- FPGAs
- Simulators for MCU/MPU

5. How to experiment & test?

6. How radical or disruptive?
New in automotive industry

9. Pet wearable for tracking movement

1. Customer
Pet owners

2. Problem/Need
- Pet health tracking and safety functions
- Fun to see what your pet is doing

3. Solution/ offering
Wearable (watch like) attachable to the collar connected to the smartphone and/or Wi-Fi.

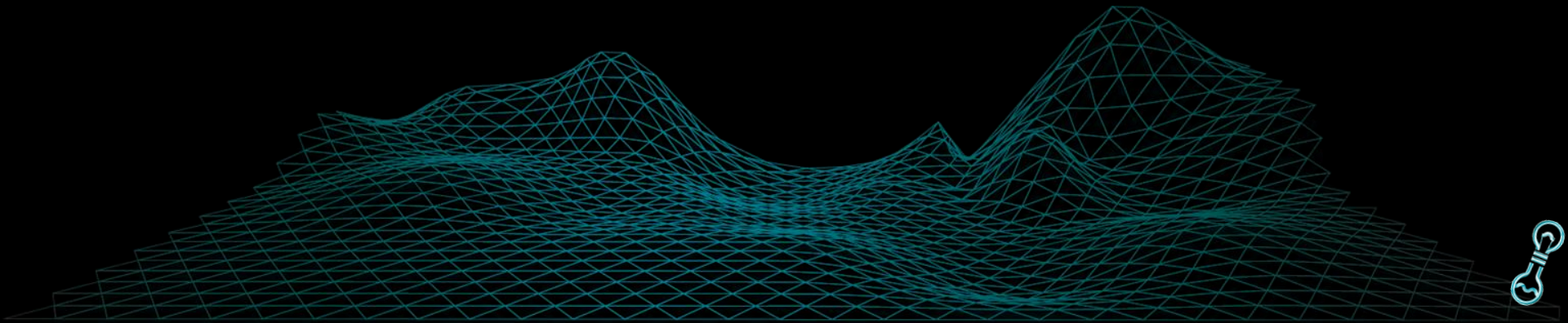
4. Technical sketch + Resources/ technology needed
- RT500 based board that can be attached to the collar
- App to collect the data

Collect data about steps, elevation - everything else is bonus (barks, GPS etc).
Health tracker for sick pets - temperature, isolation etc
Safety feature - alert on high heart rate.
Alerts for owners based on specific actions.

5. How to experiment & test?
On friends' pets

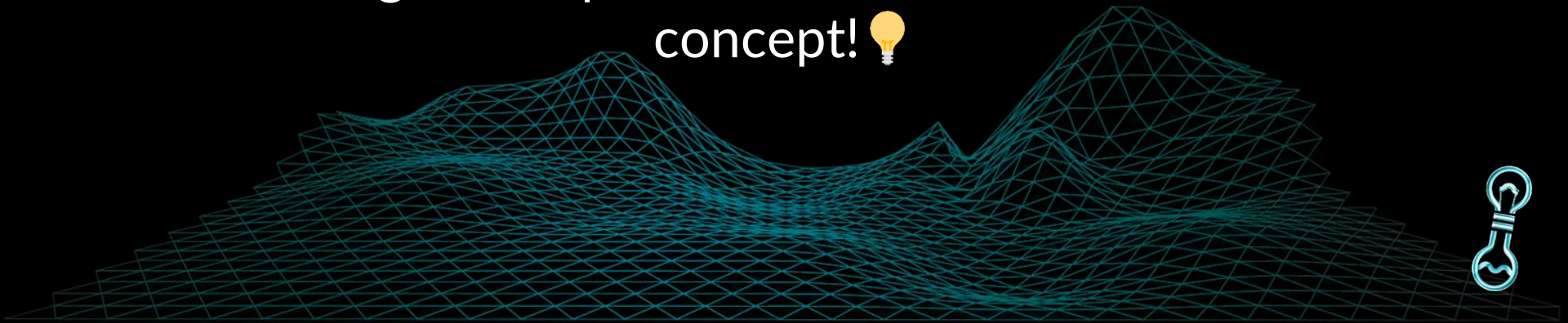
6. How radical or disruptive?
Not necessary, but can be successful for emotional reasons.

If you’re interested in any of these ideas or have any questions please contact us at contact@tech-lounge.ro and we can provide you with extra info and help!🎁



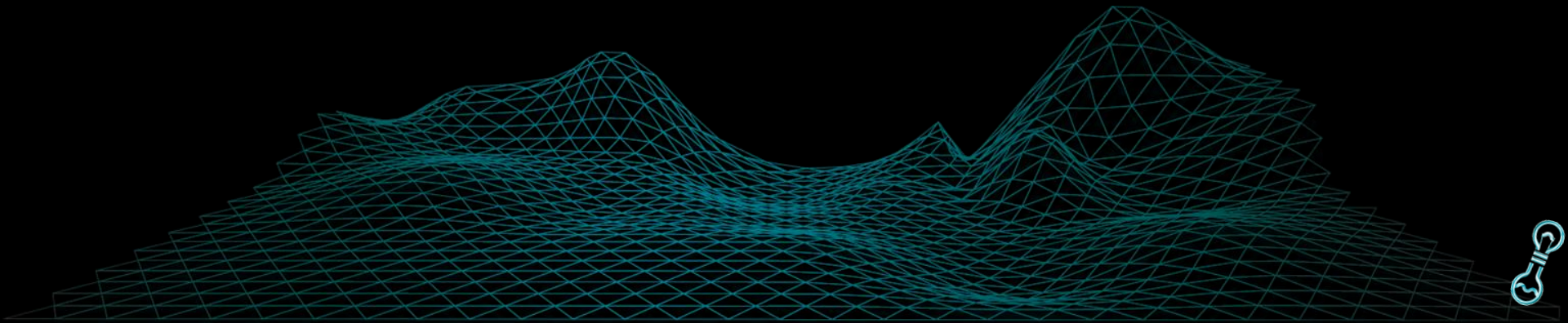
And if you haven't found something to your liking yet, worry not!

There's a bonus concept card waiting for you on the next slide to help you analyze your idea and integrate all parts of a successful business concept!💡



Concept Card (noun)

: useful tool for brainstorming or presenting ideas; it helps translate ideas into a concept that can be taken forward to prototyping.



X. your Best idea ever

1. Customer	4. Technical sketch + Resources/ technology needed	
2. Problem/Need		
3. Solution/ offering	5. How to experiment & test?	6. How radical or disruptive?


Good luck and hope to hear
from you soon!

FAQ

1. **Can I modify the ideas from the concept cards?**
   YES, we actually encourage you to showcase your skills and fresh perspectives. You are free to use the concept cards as they are presented, extend them to something more familiar or doable to you or adapt them to a different problem that you have identified.

1. **Can I choose a concept card if some other team already chose it?**
   YES, we anticipate that every team will come up with a different approach to concept cards and so that shouldn't be a problem. Reach out to us on the email address provided on the previous slides and we can confirm the uniqueness of your approach.

1. **Will I have an advantage if I choose one of these concepts for the Hackathon?**
   Choosing any of these concepts for the Hackathon won't confer any specific advantage during the program. **All ideas are considered equally important**. However, post-program, if you've developed your idea into an MVP, you'll have the opportunity to receive guidance from the companies that initially proposed these concepts.