



remotiveLabs Monitor Configure

Record Play

Choose Upload

Currently playing:

ChassisBus > cycle04_ChassisBus.zip VehicleBus > cycle04_VehicleBus.zip

Duration: 0:13 / 6:42

+ Add signal visualizations

Examples to subscribe to signals from an external application

<https://personal-rcsj4ocq7j-demo-uo7acw3qjq-e...> Feedback

ProtoPie Connect

Run Plugin

Connection	Message	Message	Value (optional)	Send
Connect	Time	Message	Value	Pie Source
Connect	15-05-10:171	SteeringAngle	-119.1000000...	RemotiveBrid...
Connect	15-05-10:159	SteeringAngle	-118.6000000...	RemotiveBrid...
Connect	15-05-10:158	AccelPedalP...	18.400000000...	RemotiveBrid...
Connect	15-05-10:147	SteeringAngle	-118.1000000...	RemotiveBrid...
Connect	15-05-10:138	SteeringAngle	-117.5	RemotiveBrid...
Connect	15-05-10:127	SteeringAngle	-117	RemotiveBrid...
Connect	15-05-10:126	AccelPedalP...	18.8	RemotiveBrid...
Connect	15-05-10:125	SteeringAngle	-116.6000000...	RemotiveBrid...
Connect	15-05-10:114	SteeringAngle	-116.1000000...	RemotiveBrid...
Connect	15-05-10:099	SteeringAngle	-115.6000000...	RemotiveBrid...
Connect	15-05-10:091	SteeringAngle	-115.1000000...	RemotiveBrid...
Connect	15-05-10:080	SteeringAngle	-114.6000000...	RemotiveBrid...

Easy prototyping with
ProtoPie & VSS

Can a small startup
from Malmö change
how software is built
in automotive?

In this industry of giants
everybody talks about
the software transformation,
but few actually build tools
that reduce complexities.



Optimize for iteration speed



What Makes A Good Engineering Culture by Edmond Lau

*Quick iteration speed increases work motivation and excitement. Infrastructural and **bureaucratic barriers to deploying code and launching features** are some of the most common and frustrating reasons that engineers cite during interviews for why they're leaving their current companies.*

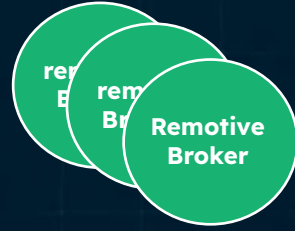
RemotiveLabs Platform

Empower vehicle software engineers to take ownership over their development environment.



CLOUD COLLABORATION
Develop & debug with colleagues & partners.

RemotiveCloud



EXTERNAL APPLICATIONS
Stream curated signals to where you need them!

REMOTE ACCESS

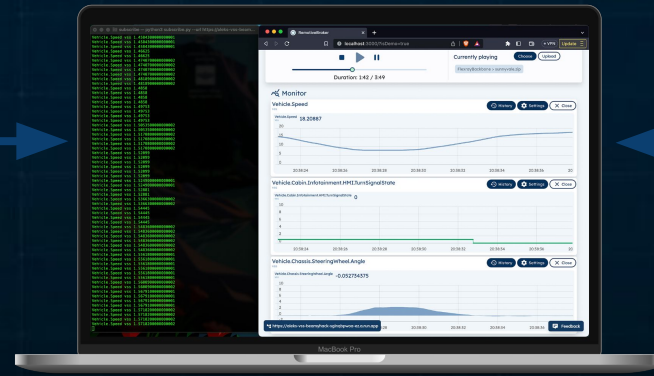


IN-VEHICLE
Simple access to vehicle signals: record + read & write.

REMOTE ACCESS



TEST RIGS
Left-shift & build your own test rigs.



Status quo

Existing tools in automotive creates cumbersome processes and does not cater for UX engineers & designers.

Left-shift

Try ideas in an easy and flexible way.

RECORDED DATA

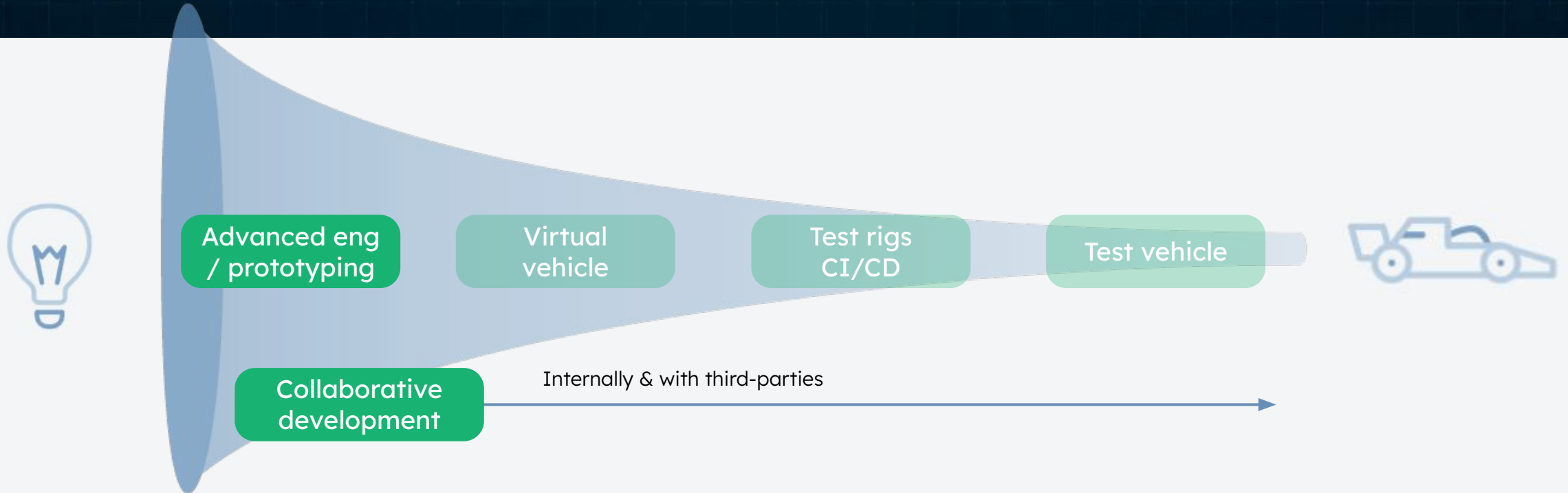
Feed from **RemotiveCloud** as VSS signals to **ProtoPie Connect**.

LIVE DATA

Connect the Linux based hardware of your choice the vehicle bus as the host of the **RemotiveBroker** that then feeds real vehicle data to **ProtoPie Connect**.



From idea to production



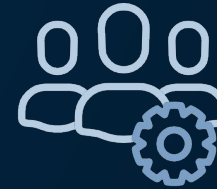
The challenge

Sharing signal data in automotive is complex and hindering efficient prototyping collaboration.

OEM proprietary data

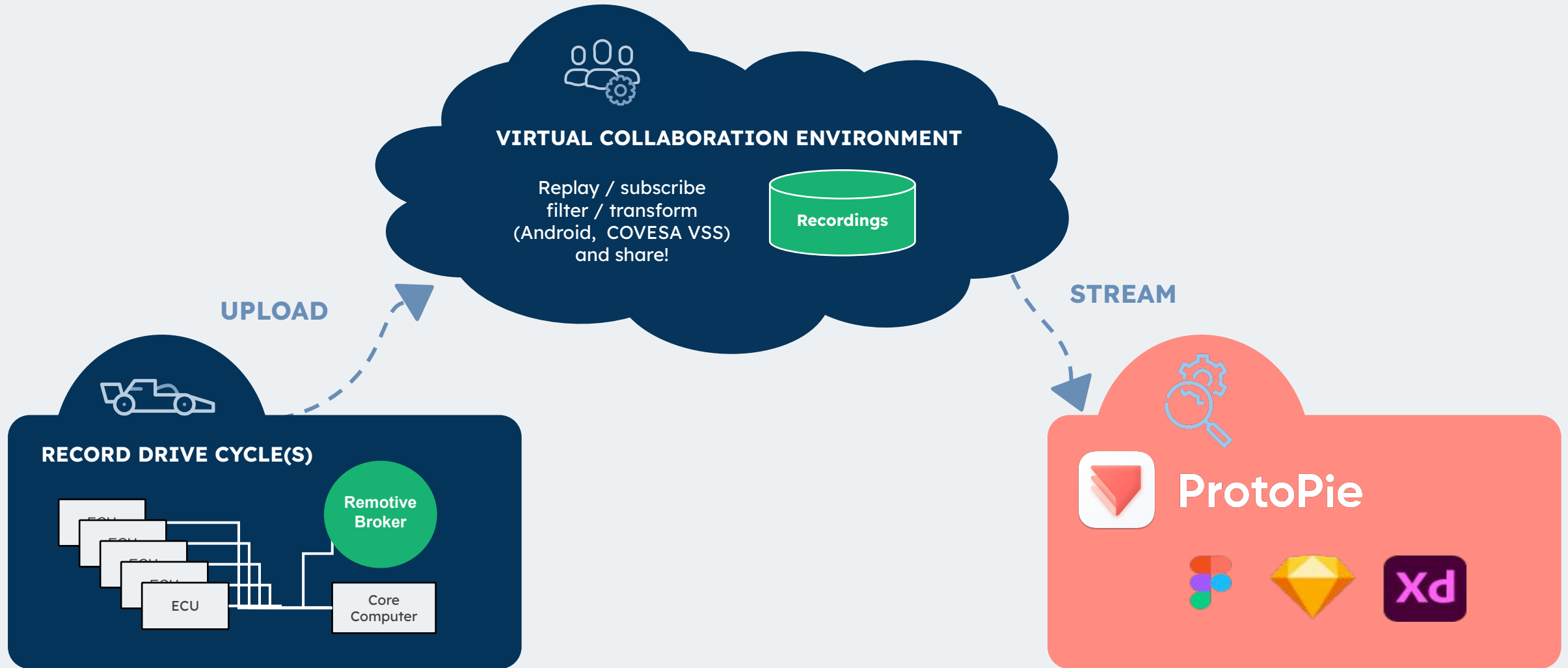


3rd parties/ partners



The solution: RemotiveCloud

A virtual environment for playback, transforming & feeding of signals.
Seamless & simple collaboration without touching the hardware.



Some key features



Upload / playback recordings

- Share and collaborate on recordings
- Get access to real data
- Fast prototyping, mutual debugging, and functional testing.



Use your language of choice

- Feed recorded signals to your favourite language: Python, Rust, C++, etc.
- Consume, plot or make use of vehicle signals anywhere!



Transform signals

- LUA scripting (rename, map, merge or synthesize) signals emitted at custom frequency.
- Produce abstraction layer for AAOS, ProtoPie, Unity, and similar in the expected format (COVESA VSS, AAOS vehicle properties etc).
- Share curated signal sets with external collaborators, hiding proprietary data.



Operation

- Cloud Console in the browser
- Command line using our CLI.

DEMO: Working with recorded data





ProtoPie

Create tomorrow's **digital experiences**



remotiveLabs

Collaborate, innovate & **get stuff done**



Three simple steps to experience live data

1. Record a drive cycle



RemotiveBroker runs on any Linux/ docker-based hardware including Raspberry Pi & will record all signals from the vehicle.



2. Build your instrument cluster



Match the signals in the recording in the cloud with instrument cluster - we used a popular prototyping tool called ProtoPie.



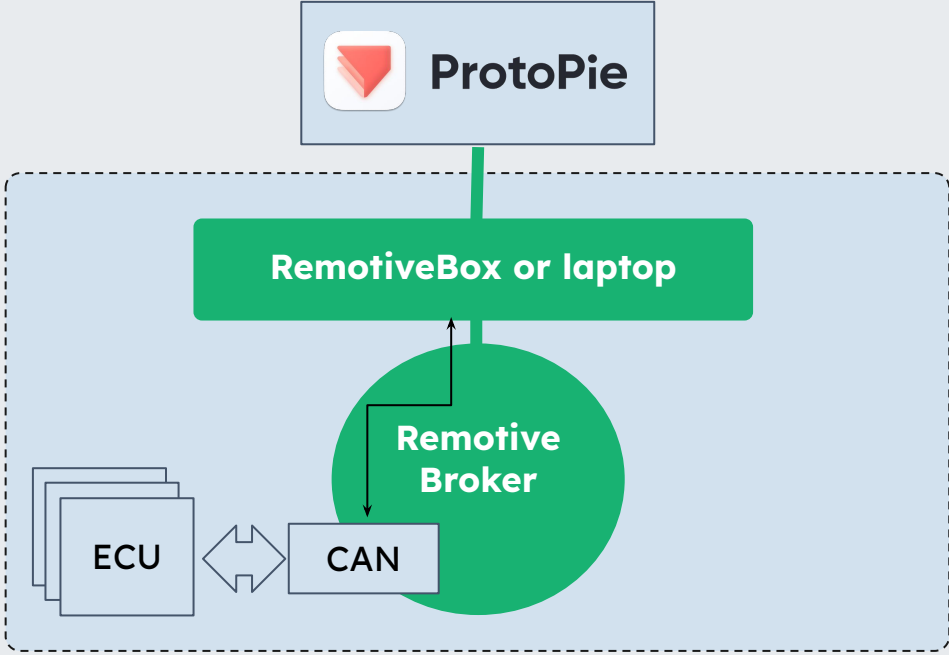
3. Experience it live!



The RemotiveBroker acts as an enabler for the ProtoPie cluster to receive vehicle signals in real-time.



Setup with RemotiveBroker to feed live data to external application



RemotiveLabs demo (no sign-in/registration)

<https://demo.remotivelabs.com>

! Examples to subscribe to signals from an external application

We have a samples repository available in Github for anyone who wants to run code against code and play around with the signals in this recording. Our repositories have detailed READMEs.

Simply check out the instructions down below to get going!

For issues with any of the steps below please use our community discussions on github, github.com/remotivelabs/remotivelabs-protocie or email support@remotivelabs.com

Python C++ AAOS (Android) **Protopie** CLI Scripted Signals

Instructions about our Protopie bridge-app can be found here <https://github.com/remotivelabs/remotivelabs-protocie>

```
$ git clone https://github.com/remotivelabs/remotivelabs-protocie.git
```

```
$ cd remotivelabs-protocie
```

```
$ npm install
```

```
$ echo '{ "subscription": {"Vehicle.Speed" : {"namespace" : "vss"}}}' > remotivelabs-protocie-config.json
```

```
$ node src/remotivelabs-bridge-app.js --url https://emil-test-demo-uo7acw3c18de7a39 --config remotivelabs-protocie-config.json
```

RemotiveLabs GitHub – get started

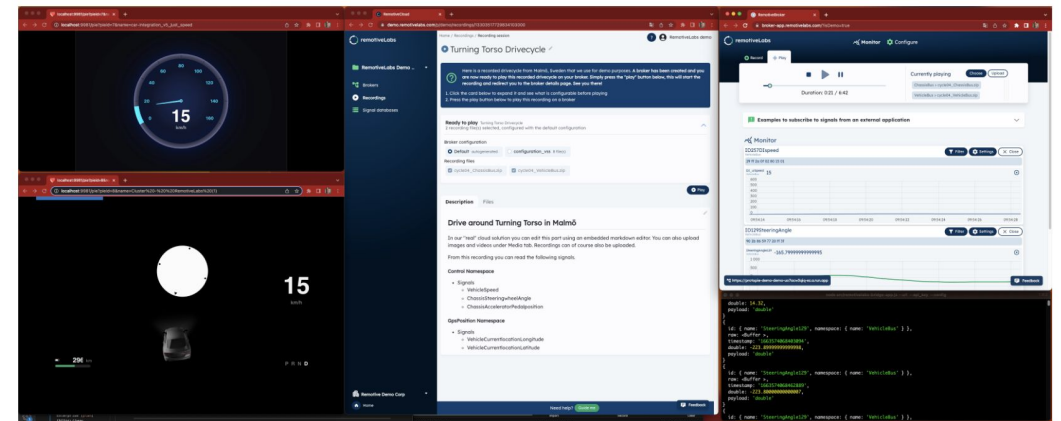
<https://github.com/remotivelabs-protocie>

README.md

RemotiveLabs + Protopie

Use our RemotiveCloud together with Protopie and feed real vehicle signals into your prototype.

Read this blogpost for a good introduction <https://www.protopie.io/blog/challenging-the-status-quo-in-automotive-prototyping>



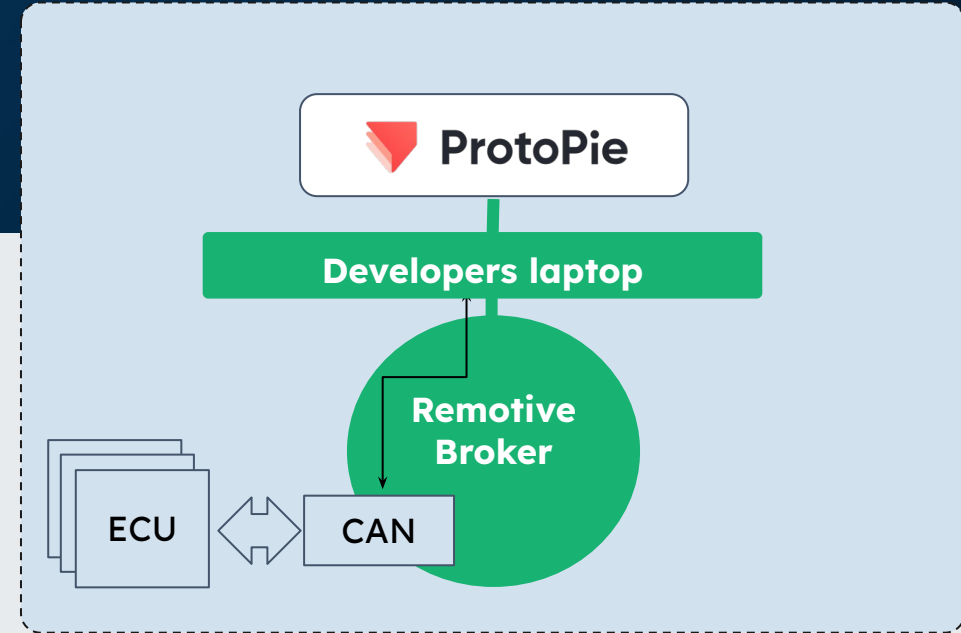
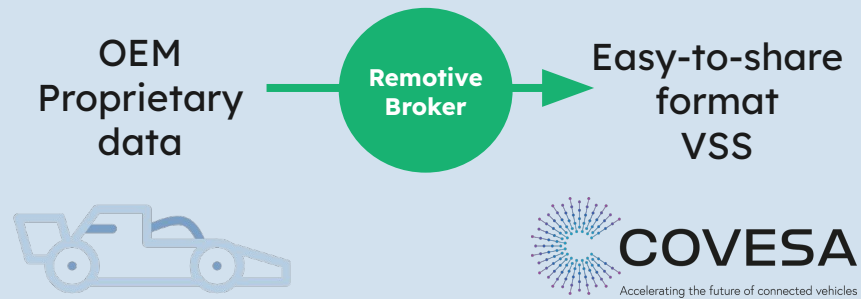
Try it out yourself

This solution requires [Protopie-Connect](#) which in turn requires a Protopie Pro or Enterprise plan.

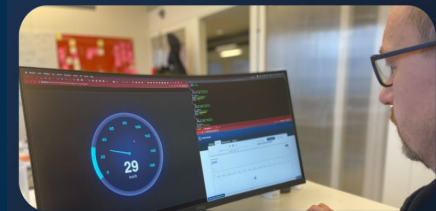
Disclaimer: This is a fully functional but not yet officially released protocie-connect bridge-app

Summary – Quick prototyping using real data

Transform signals (LUA)



Record a drive cycle,
match signals,
Experience it live!





Increase speed
and reduce risk

With an iterative way of working



Innovate &
realize new ideas

With the right people



Software-centric
development

With seamless collaboration



remotiveLabs