

# myGates

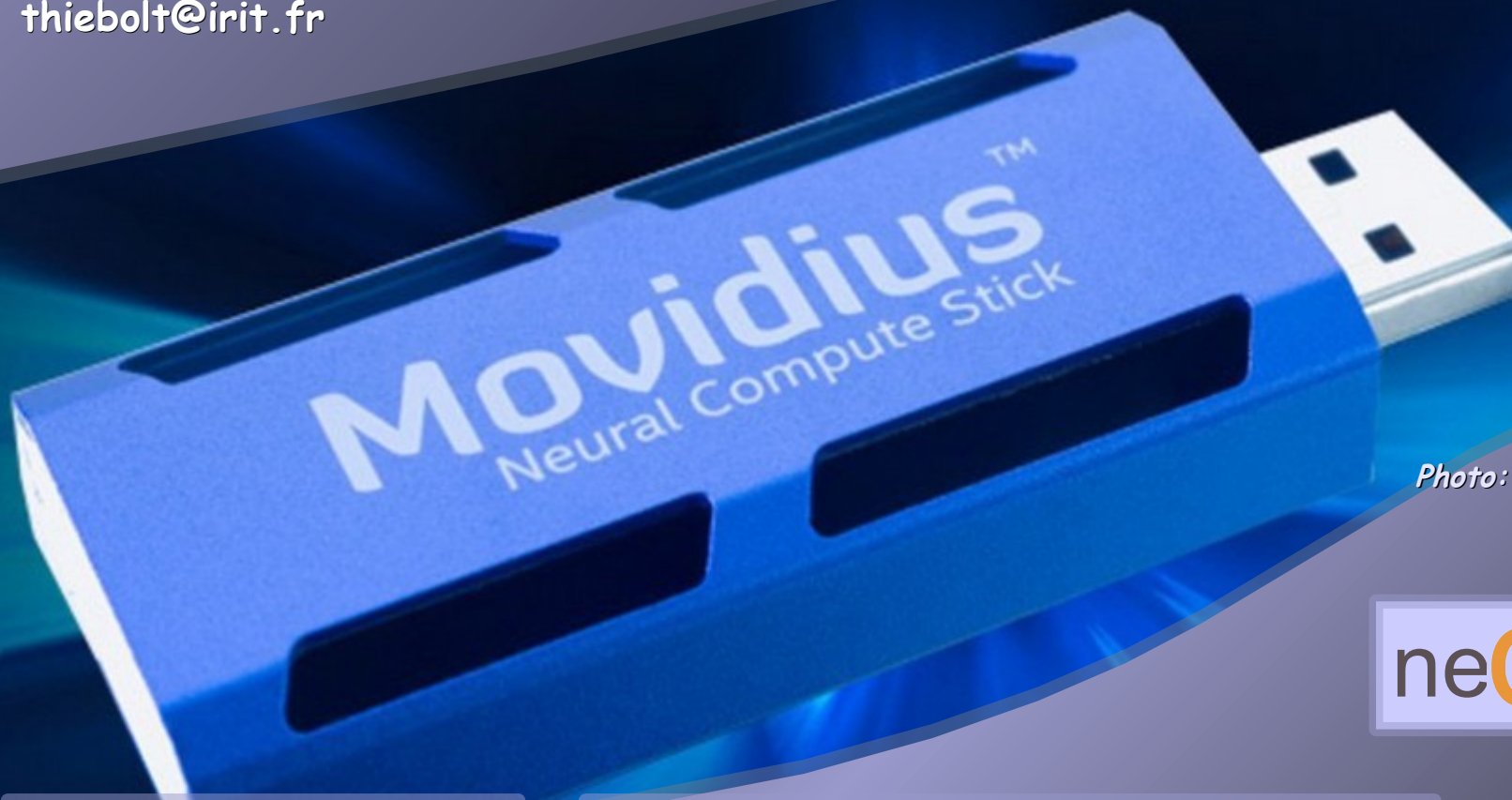
... AI featured gates in my campus :)

<https://mygates.univ-tlse3.fr>

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University services / SEC & SGE

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*Photo: Intel Neural Compute stick*

neCCampus





# Plan

## General

- Project goals & autOCampus relationships,
- Gates in my campus,
- Solutions overview,
- Infrastructure works for our smart gate,
- Timeline

Latest news at <https://mygates.univ-tlse3.fr>



# What's all this autOCampus stuff, anyhow\* ?

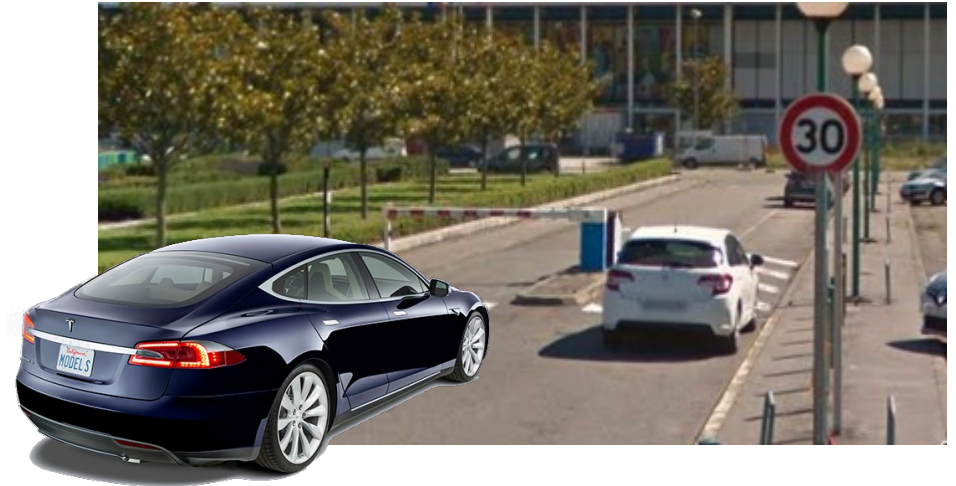
autonomous vehicles going in and out of our campus

- Gates automation for autonomous vehicles

Gate automatically opens once an authorised vehicle arrives:



License plate has been recognized and neOCampus gave authorization :)



- Campus-wide parcel delivery management

No more tags given to parcel delivery drivers: license plate scanned will give access to the campus.



License plate has been scanned by security and neOCampus will deliver authorisation for a specific period of time and/or one-shoot in/out.



\* Remember Bob Pease <http://www.ti.com/ww/en/bobpease>





# Gates @ campus

- autOCampus autonomous vehicles circuit and gates



<https://www.google.fr/maps/@43.5606864,1.4685211,1791a,35y,54.38h,1.71t/data=!3m1!1e3>

- 3 ways to go ...

1) neOCampus intelligent camera to an already automated gate ...



Network and power (almost) already there,  
Just need the camera,  
Lowest cost POC



Integration with low-level commands of the  
gate.

2) neOCampus intelligent camera to a fireman  
gate ...



Independent solution,  
Total freedom ...



A lot of works to bring power (and maybe the  
network) to the camera,  
Not used by anyone (POC only stuff) :|  
Mid priced POC due to infrastructure works





## 3) Doing nothing ...

Our University will buy a costly off-the-shelf solution featuring a paid per-usage optional API along with an annual subscription for maintenance ...

*... or maybe not :)*



\$44000 + \$25000 subscription for two vehicles\* !!

\* <https://www.kcrg.com/content/news/After-more-than-a-year-CRPD-calls-plate-readers-pretty-amazing-442529593.html>

# neOCampus' solution

Raspberry Pi with camera + License Plate software + LoRa module

- License plate,
- Timestamp,
- Others...

neOCampus' LoRa gateways



neOCampus' infrastructure

Comm. service

Authorization mikro-service



LoRa relays

open



License plate scan

Model: Tesla  
Plate ID: XX-007-YY

<https://mygates.univ-tlse3.fr>

# Infrastructure works

- (1) Already automated gate



Optional Ethernet  
neOCampus vlan  
to get routed



- (2) Firemens' gate



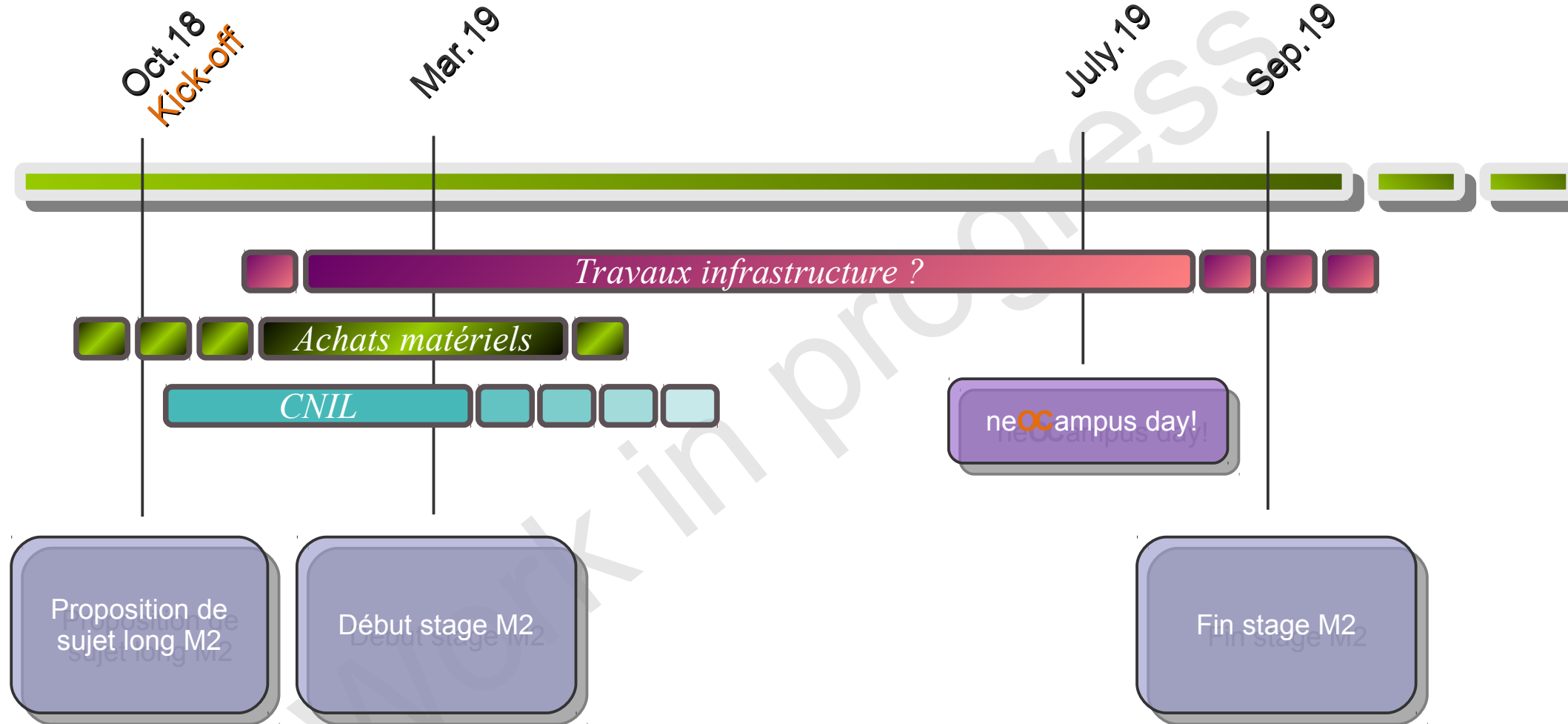
Everything from  
solution (1)







# Timeline





# Plan

## myGates project

- Inner view,
- Trade-offs,
- Software development,
- AI enabled camera.

Work in progress

Latest news at <https://mygates.univ-tlse3.fr>