Hardware for Cellular IoT

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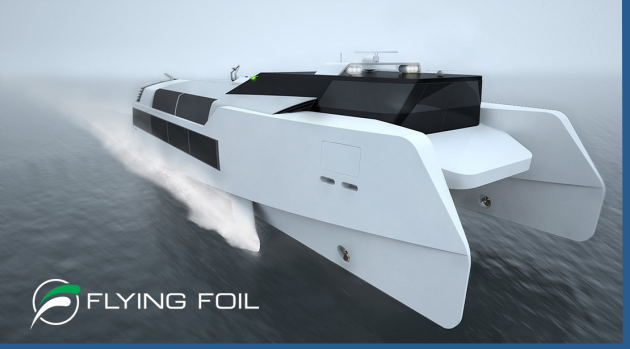
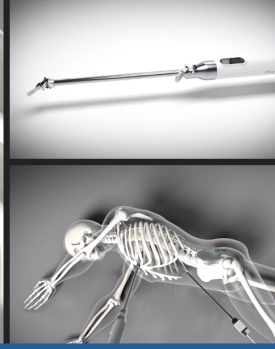
INVENTAS


FLYING FOIL

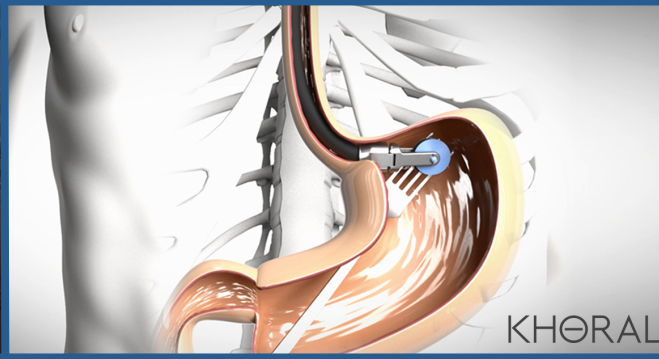
koppler
koppler
koppler

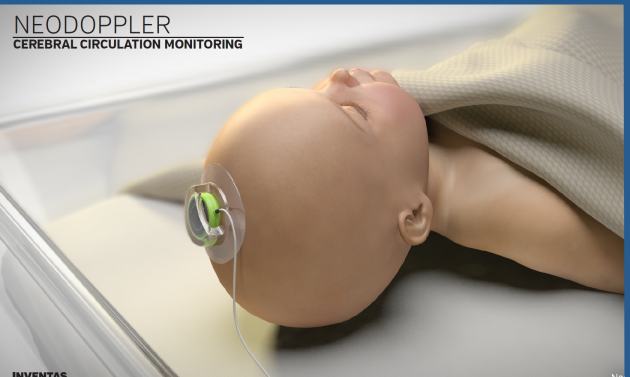
SHEAR



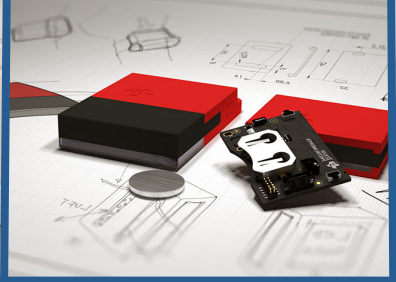
MULTIGUIDE

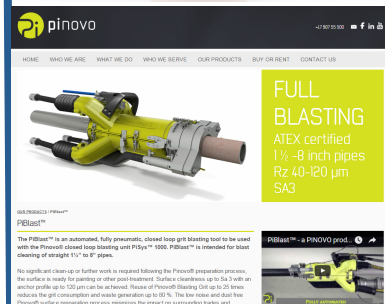
scout
DRONE INSPECTION

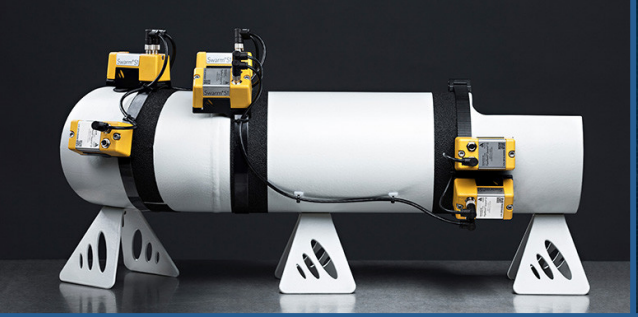

KHORAL


NEODOPPLER
CEREBRAL CIRCULATION MONITORING

ULTRASONIC PROBE
PERIPHERAL CIRCULATION MONITORING
earlybird

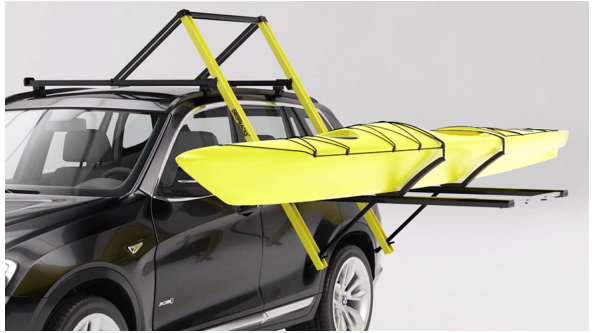



pinovo
+27 800 55 500
HOME
WHO WE ARE
WHAT WE DO
WHO WE SERVE
OUR PRODUCTS
BUY OR RENT
CONTACT US
FULL BLASTING
ATEX certified
1 ½ -8 inch pipes
Rz 40-120 µm
SA3
OUR PRODUCTS / PiBlast™
PiBlast™
The PiBlast™ is an automated, fully pneumatic, closed loop grit blasting tool to be used with the Pinovo® closed loop blasting unit PiSys™ 1000. PiBlast™ is intended for blast cleaning of straight 1½" to 8" pipes.
No significant clean-up or further work is required following the Pinovo® preparation process, the surface is ready for painting or other post-treatment. Surface cleanliness up to Sa 3 with an anchor profile up to 120 µm can be achieved. Reuse of Pinovo® Blasting Grit up to 25 times reduces the grit consumption and waste generation up to 80 %. The low noise and dust free Pinovo® surface preparation process minimizes the impact on surrounding trades and
PiBlast™ - a PINOVO prod...

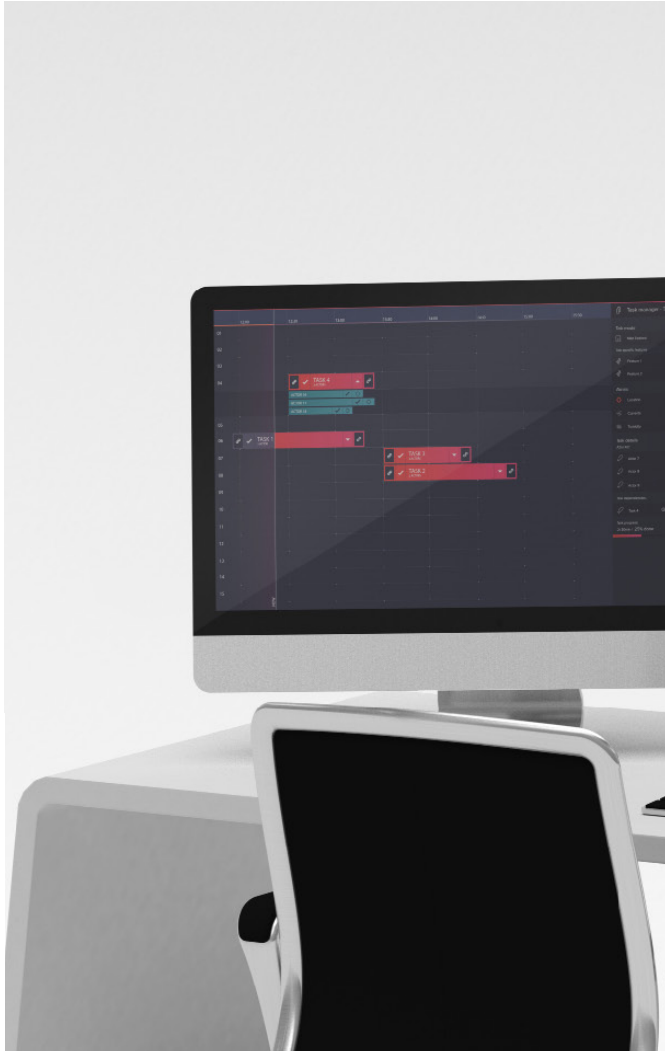


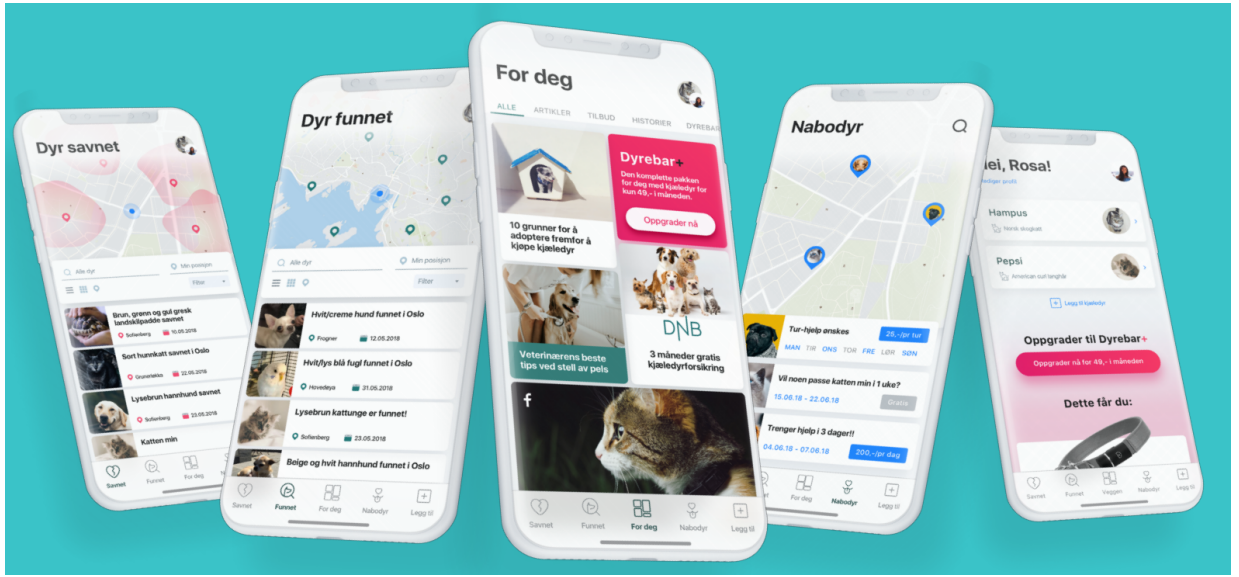
NDM
NDM

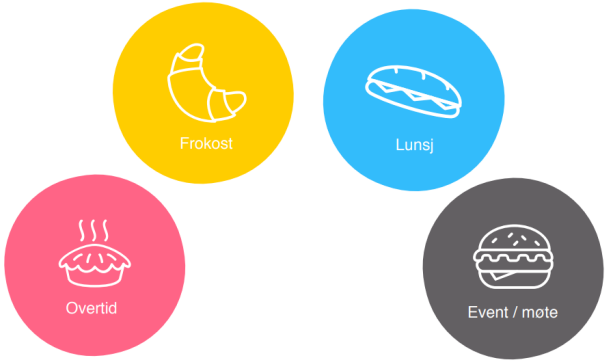
emgs



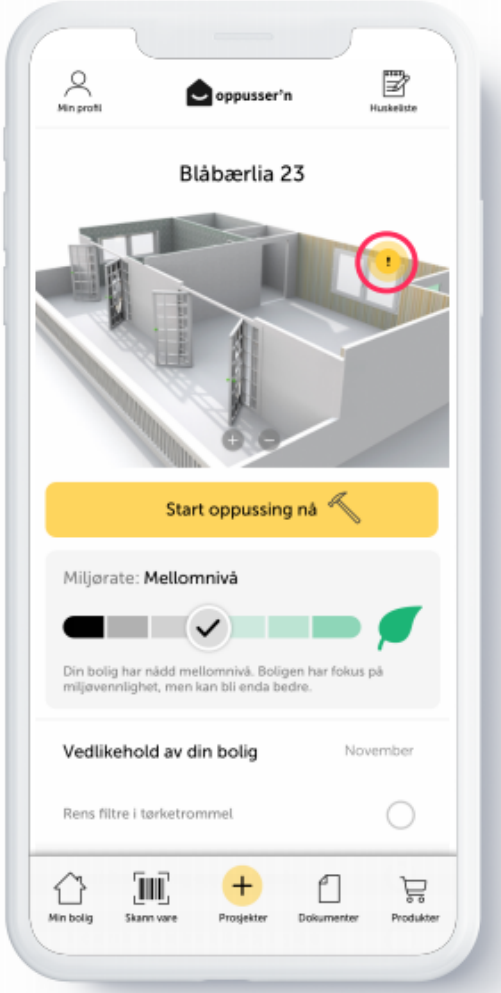
reddot design award




Dyr savnet
Dyr funnet
For deg
Nabodyr
Dyrebar+
Oppgrader nå
10 grunner for å adoptere fremfor å kjøpe kjæledyr
Veterinærens beste tips ved stell av pels
DNB
3 måneder gratis kjæledyrforsikring
Hvit/creme hund funnet i Oslo
Hvit/lys blå fugl funnet i Oslo
Lysebrun kattunge er funnet!
Beige og hvit hannhund funnet i Oslo
Tur-hjelp ønskes
Vil noen passe katten min i 1 uke?
Trenger hjelp i 3 dager!!
Hampus
Pepsi
Oppgrader til Dyrebar+
Dette får du:


Frokost
Lunsj
Overtid
Event / møte

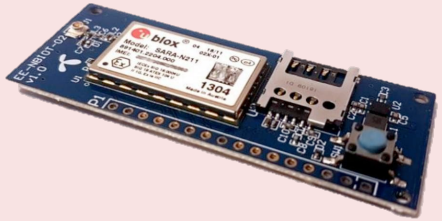
LEON.
Velg hvilke dager dere ønsker leon til lunsj?
TIRSDAGER
FREDAGER
11:30
8
7
Hvor mange er det vanligvis som skal ha lunsj?
Er det noen av dere som har allergier eller andre behov?
Hva slags meny ønsker dere på tirsdager?
SURPRISE BOX
MEAT-FREE
Hva slags meny ønsker dere på fredager?
FREDAGS-DIGGS
SURPRISE

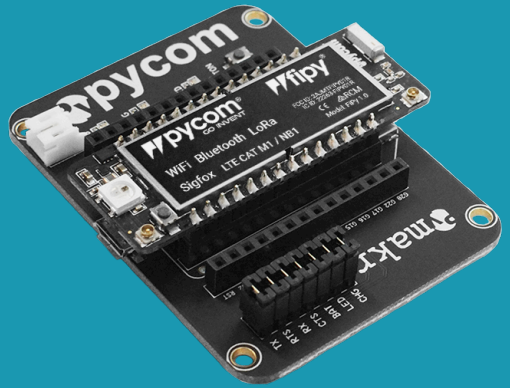

Min profil
oppusser'n
Huskeliste
Blåbærlia 23
Start oppussing nå
Miljørate: Mellomnivå
Din bolig har nådd mellomnivå. Boligen har fokus på miljøvennlighet, men kan bli enda bedre.
Vedlikehold av din bolig
November
Rens filtre i tørketrommel
Min bolig
Skann vare
Prosjekter
Dokumenter
Produkter

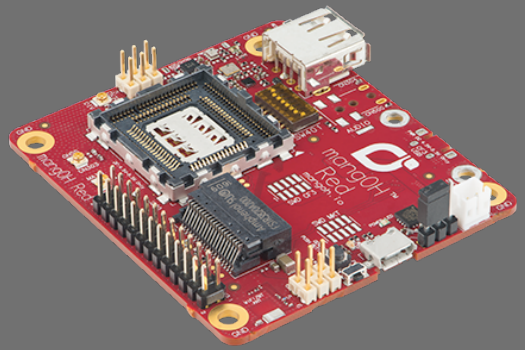
ublox

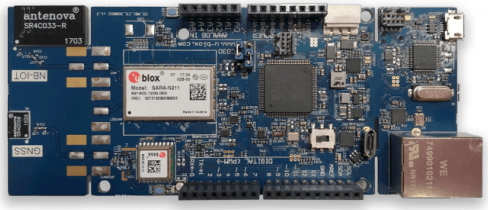
pycom
GO INVENT

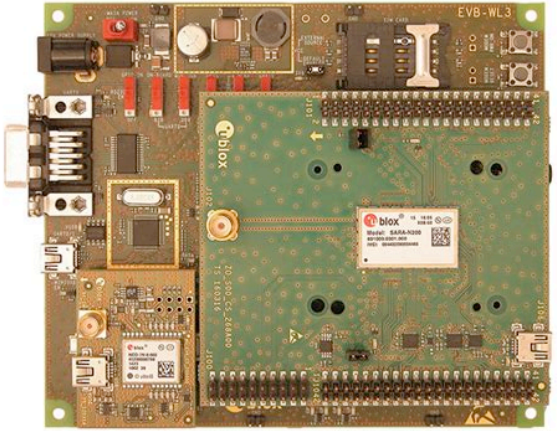
SIERRA
WIRELESS®








antenova
SR4C033-R
1703
NB-IOT
GNSS
blox


EVB-WL3
blox

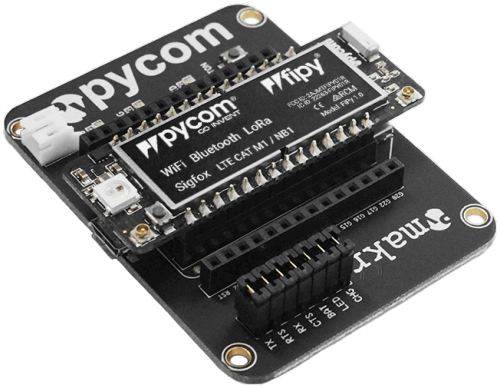
```
> AT+CEREG?
  +CEREG: 0,1
  OK
> AT+NSOCR="DGRAM",17,12345,1
  0
  OK
> AT+NSOST=0,"172.16.15.14",1234,2,"4869"
  0,2
  OK
  +NSONMI: 0,5
> AT+NSORF=0,5
  0,"172.16.0.101",45089,5,"48656C6C6F",0
  OK
> AT+NSOCL=0
  OK
```

U-blox SARA N2

- AT-commands
- USB or UART
- Separate processor
- Pin compatible
- Many kits available

pycom
GO INVENT

```
>>> lte = LTE()
>>> lte.attach()
>>> while not lte.isattached():
...     time.sleep(0.25)
>>> lte.connect()
>>> while not lte.isconnected():
...     time.sleep(0.25)
>>> s = socket.socket()
>>> address = ("40.68.172.187", 8891)
>>> s.connect(address)
>>> s.send(message)
```



Pycom FiPy

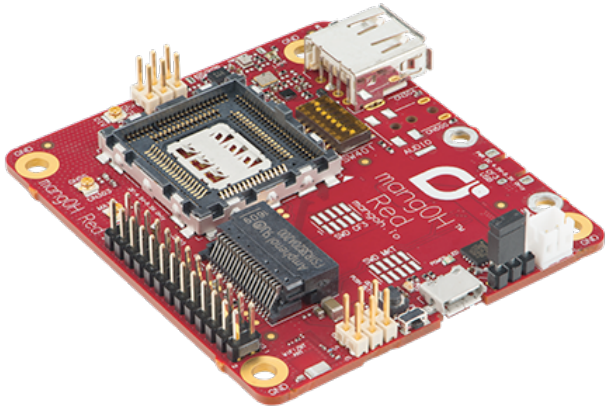
- Micropython
- VS Code / Atom plugins
- Library access to modem
- Lots of connectivity
- Integrated LX6 processor
- Pybytes platform (?)

SIERRA WIRELESS

```
 ~ ssh root@192.168.2.2
root@swi-mdm9x15:~# cm radio
Power:       ON
Current Network Operator: N NetCom
RAT:         GSM network (LE_MRC_RAT_GSM)
Status:      Registered, home network (LE_MRC_REG_HOME)
Signal:      Strong signal strength (4)

root@swi-mdm9x15:~# cm data
Index:       1
APN:         internet.telia.no
PDP Type:    IPV4
Connected:   no

root@swi-mdm9x15:~# cm data connect 10 &
root@swi-mdm9x15:~# Connected through interface 'rmnet0'
root@swi-mdm9x15:~# ping google.com
PING google.com (172.217.20.46): 56 data bytes
64 bytes from 172.217.20.46: seq=0 ttl=50 time=154.708 ms
```



Sierra Wireless WP7700

- Legato Linux
- Developer Studio (Eclipse)
- Library access to modem
- Also sold as product
- Airvantage platform

Hardware for Cellular IoT

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albertskog.se/slides