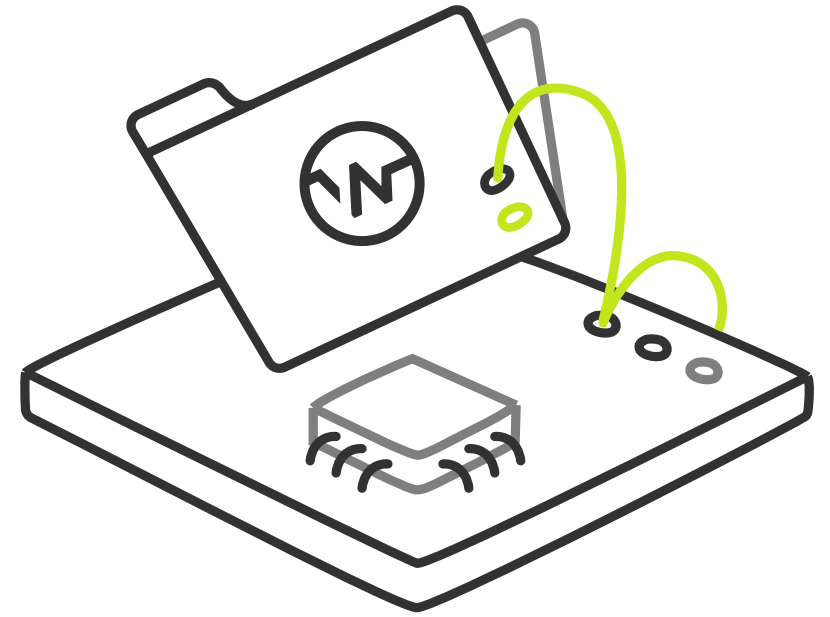


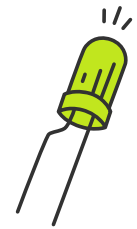
wedolow

{ Efficiency

for your embedded  
solutions }



[www.wedolow.com](http://www.wedolow.com)



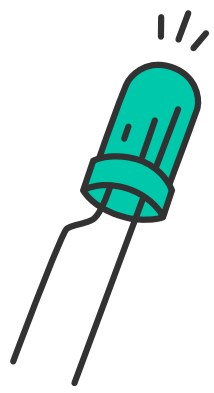


WedoLow is a software editor that helps design embedded and cloud applications promoting the eco-design of digital services.

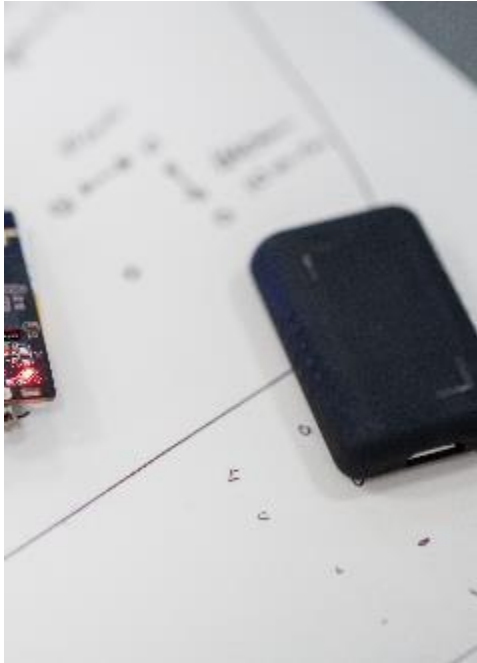


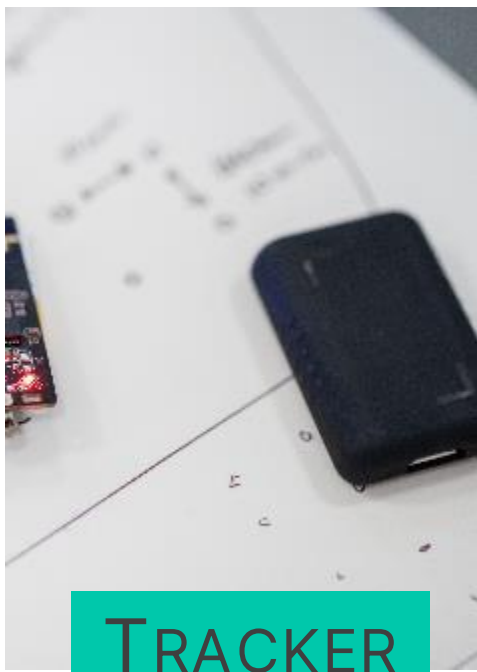
➤ Our mission:  
To enable  
development teams  
to design  
applications  
optimized to the right  
needs in an  
automated and ultra-  
fast way. ➤





Objective:  
improve efficiency and performance  
of your applications





TRACKER



SMARTPHONE



VEHICLE



ROBOT



DRONE

➤ Mobility industry, Defense and Space,  
Consumer and professional electronic ➤



Efficiency  
and performance

*Facts and figures*



50% power  
consumption

*(subaquatic robot –  
STM32)*



-30% savings on  
memory space  
-10% on runtime

*(connected headset for  
industry– STM32)*



-72% on runtime

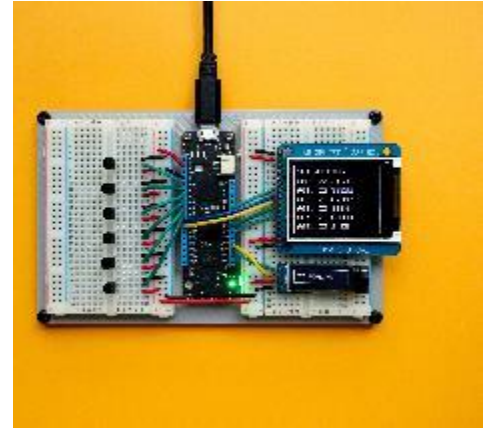
*(subaquatic robot – STM32)*

-96% latency

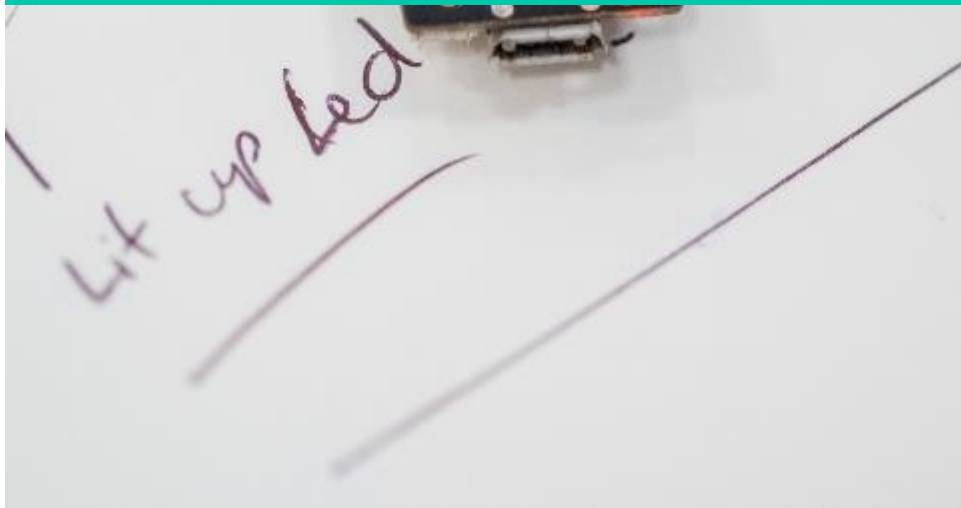
*(image processing–  
inspection robot– X86-64)*

-40% on runtime

*(network frame processing and  
filtering - Internet equipment -  
Quad Core ARM Cortex A9)*



# An answer to the challenges of developing embedded systems under constraints







WEDOLOW

SUPPORTS SOFTWARE

DEVELOPMENT TEAMS TO  
MEET THE CHALLENGE OF

OPTIMIZING THEIR

APPLICATIONS \*

1

Be able to identify and make visible potential gains

2


Know and master +/- complex optimization techniques

3

Be able to quickly implement optimizations  
(time, human resources)



 beLow

 beLow-Explore

Allows to *quantify the optimization potential* of an application and to guide designers in their development choices

Release: Summer 2023

 beLow-Optimize

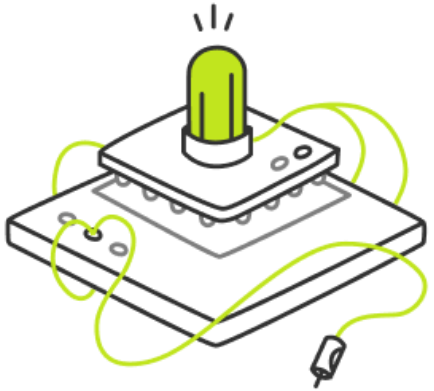
Allows to *automate and accelerate the optimization of this application*

Release : Fall 2023

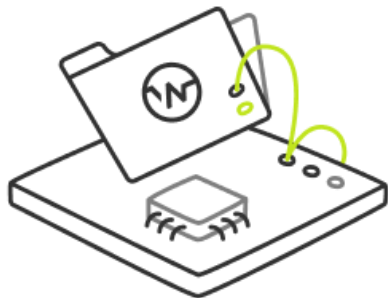
Software  
(C/C++)



1. Explore



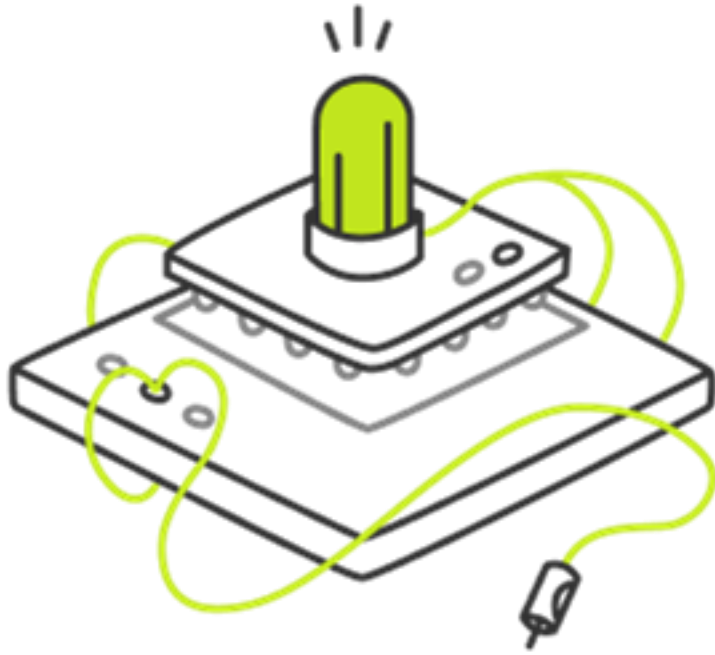
2. Optimize



{ quantify the optimization  
potential of an application

{ automate and accelerate  
the optimization of any  
application

## Ⓜ beLow-Explore



*Set-up: creation of your project with your executable code, a representative input set, hardware target, etc.*

## Diagnosis of your source code

### *Static analysis of source and compiled code*

*Allows you to determine what each line of code does as processing (control, memory, calculations).*

### *Dynamic Analysis*

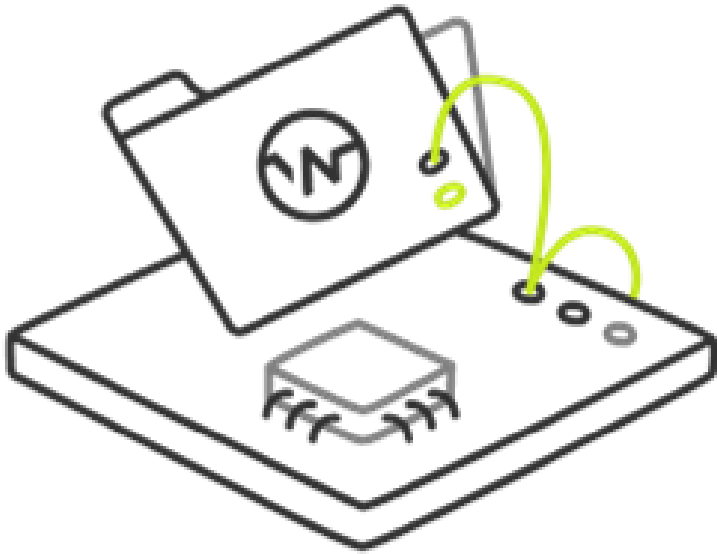
*A profiling of the code is done, with linkage to the hardware platform.*

### *Outputs :*

- *A function call tree to guide the choice of the subpart to optimize*
- *Code coverage rate with the provided inputs*
- *Breakdown of the application according to the type of processing performed*
- *Areas of the application that can be optimized and an estimate of the optimization potential of your application*



 beLow-Optimize



*At the end of the diagnosis, the selection of the optimization to be implemented is made.  
We propose several techniques.*

## Automated optimization of your code

***Data type consistency analysis***

***Factorization***

***Polynomial approximation***

***Floating point to fixed point conversion***

***Data parallelization (SIMD)***

***Outputs :***

*Visualization of the gains obtained  
Delivery of the optimized version of your application*

```
graph TD; A[An agnostic expertise] --> B[For applications of any size in C/C++]; A --> C[For any type of hardware target<br/>(microcontrollers, DSP, FPGAs, ASIC)]; A --> D[For a wide variety of needs<br/>(image processing, audio signal processing, neural network, etc.)];
```

## An agnostic expertise

For applications of  
any size  
in C/C++

For any type of  
"hardware target"  
(microcontrollers, DSP,  
FPGAs, ASIC)

For a wide variety of  
needs  
(image processing, audio  
signal processing, neural  
network, etc.)

# For your product, throughout its life cycle



---

*In the software development phase to support as soon as possible and guarantee a better result for the hardware team promoting stronger collaboration between the various development professions involved.*

---

*After the launch and the first customer feedback to review the software layer of the solution and update the equipment for more efficiency before scaling up and mass production of for preparing a new version.*

---

*To support product enhancement with new features, code review for new releases.*



## Justine BONNOT – CEO & Founder



WedoLow's know-how and its embedded application optimization solution are the result of research and technological maturation carried out by Justine BONNOT.

Engineer in electronics and industrial computing (INSA of Rennes) and Doctor in signal processing (IETR of Rennes), she has collaborated in recent years with manufacturers in the telecoms, automotive and consumer electronics sectors.

She was able to demonstrate the fantastic potential for gains that it was possible to generate in energy consumption, execution speed or Silicon area on software applications, while guaranteeing the quality and performance of equipment and products.



WodoLow, founded in early 2022, is backed by Bouygues Telecom (25 Mn of customers – 7 Bn of turnover) through its Flowers program.

The start-up benefits from the support of the team of coaches of the xCUB program which offers a complete training and support system for innovative companies for the diversification of large groups

# A team of expert – R&D is our DNA



Justine Bonnot  
Founder | CEO | R&D Manager

## R&D



Julien Heulot  
R&D engineer



Tristan Perrault  
R&D engineer



Quentin Milot  
PhD Student | IETR



Mehdi Merah  
R&D Intern | Univ. Rennes



Baptiste Daniel Lamazière  
R&D Intern | ISIMA Clermont

## PRODUCT



Laure Gilbert  
Product Manager



Benjamin Barrois  
CTO



Yann Salaün  
Back-end developer



Mickael Benasse  
Front-end developer



Frédéric Barras  
DevOps engineer

## MARKETING & SALES



Adrien Savary  
CMO



Marin Burel  
Business developer



Marine Horvais  
Communication and  
marketing officer

## SUPPORT



Elisabeth Lopez  
HR



20 years of cumulative R&D on subjects at the heart of our expertise (electrical and computer engineering, signal processing, approximate computing, programming of embedded platforms and operating systems, low-power computing)





We are convinced that environmental issues constitute an extraordinary opportunity for innovation.

They force us to think differently about our products, our processes, our current organization.

In this major transformation to be undertaken, we believe in the key role played by responsible, sober and frugal digital technology, which consumes less energy and materials.

# Contacts



Hyper-optimization for  
software efficiency

[www.wedolow.com](http://www.wedolow.com)



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