

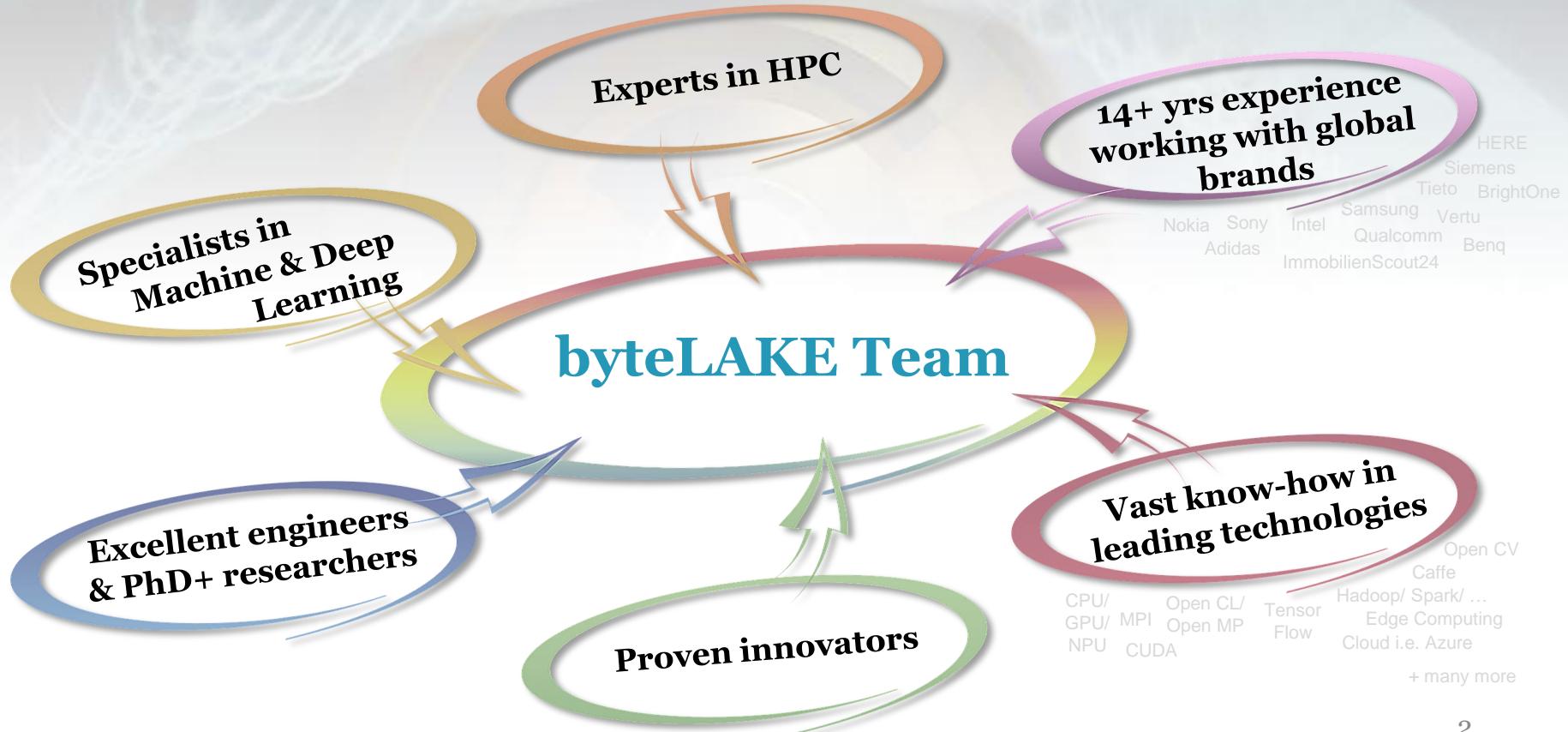
# We Help Embrace the power of Artificial Intelligence

**byteLAKE**

*Focusing on Now, in touch with Tomorrow.*

Last update: Feb'18

# Who are we?



# Successful R&I in Europe 2018

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## Looking for:

Partners (consortium, investor) to jointly pursue  
with ideas for Energy & Industry 4.0.

## Can offer:

Expertise in Artificial Intelligence and HPC  
(High Performance Computing). Any project.



# Looking for...

## Project #1: Energy

**Goal:** predict “wind energy” production based on meteorological data.

**Scenario to start with:** build an AI-supported weather forecasting method that would give better results than a standard, physical algorithm.

**To solve:** we do not get reliable weather forecasting incl. wind parameters beyond 2hrs limits. Issues: can't estimate the need of alternative energy sources, estimate energy production from windmills.

**Need:** industry partner (Energy production, distribution & regulation).

**Have:** AI expertise, mathematicians, willingness to join from weather forecasting institute & experts in the field.

## Project #2: Industry 4.0

**Goal:** Computer Vision powered Video Management System (VMS) for industries.

**Scenario to start with:** Enhance VMS with AI algorithms for advanced analytics: recognition based on behaviors, context recognition, early fire detection etc. Bring AI to edge cameras.

**To solve:** enable advanced analytics and detect threats early. Reduce bandwidth requirements for device-cloud transmissions (have on-device AI processing).

**Need:** consortium members (i.e. VMS provider, HW provider, industry/factory) or investor.

**Have:** in discussions with VMS provider + have AI/CV experts in the team. POC of on-device AI (AI on Edge).

# Can offer expertise in...



Computer Vision



Machine Learning



AI for Edge Devices



Deep Learning



Learning Optimization



HPC

# Case Studies

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Example Application

### Artificial Intelligence on the Edge on-device, in real-time, offline

On-device AI

- ✓ Real-time AI
- ✓ Reduced latency
- ✓ Eliminated intermittent connectivity related issues

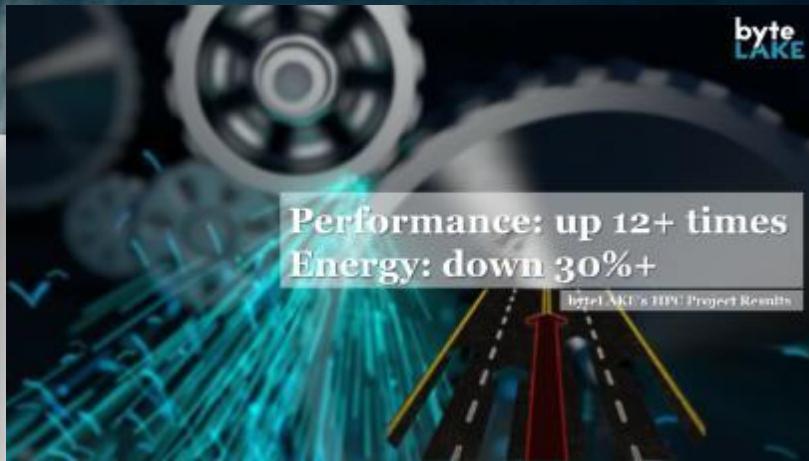
IoT Ecosystem Connectivity

Data from Sensors

On-device AI

Reporting, statistics, diagnostics, predict the maintenance etc.

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### Towards Auto-Tuning Systems

*How Artificial Intelligence tunes software for supercomputers*



### Research Case: Fire Guard

• **Fire Guard** monitoring system has only one goal: detect a fire (i.e. in the forest) at its very early stage.

#### • Key highlights:

- mesh of drones
- advanced Computer Vision
- fast localization and recognition of fire (or risk of it)



# Let's talk!



**Marcin Rojek**  
Co Founder



**Mariusz Kolanko**  
Co Founder



# Let's do amazing products together!



Marcin Rojek



Mariusz Kolanko



# byteLAKE

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

byteLAKE is a business partner helping enterprises embrace the power of Artificial Intelligence. We also build and optimize HPC supercomputing software solutions.

Our mission is to help industries transform for the era of Artificial Intelligence.

## We are specialists in:

**Machine Learning**  
**Deep Learning**  
**Computer Vision**

**High Performance Computing**  
**Heterogeneous Computing**  
**Edge Computing**



We optimize performance of companies and help achieve a competitive advantage by delivering innovative AI solutions, training and advisory services.

We combine business and academia. Our team consists of experts schooled by Fortune 500 corporations as well as PhD researchers.