

# Digital Literacy Revolution

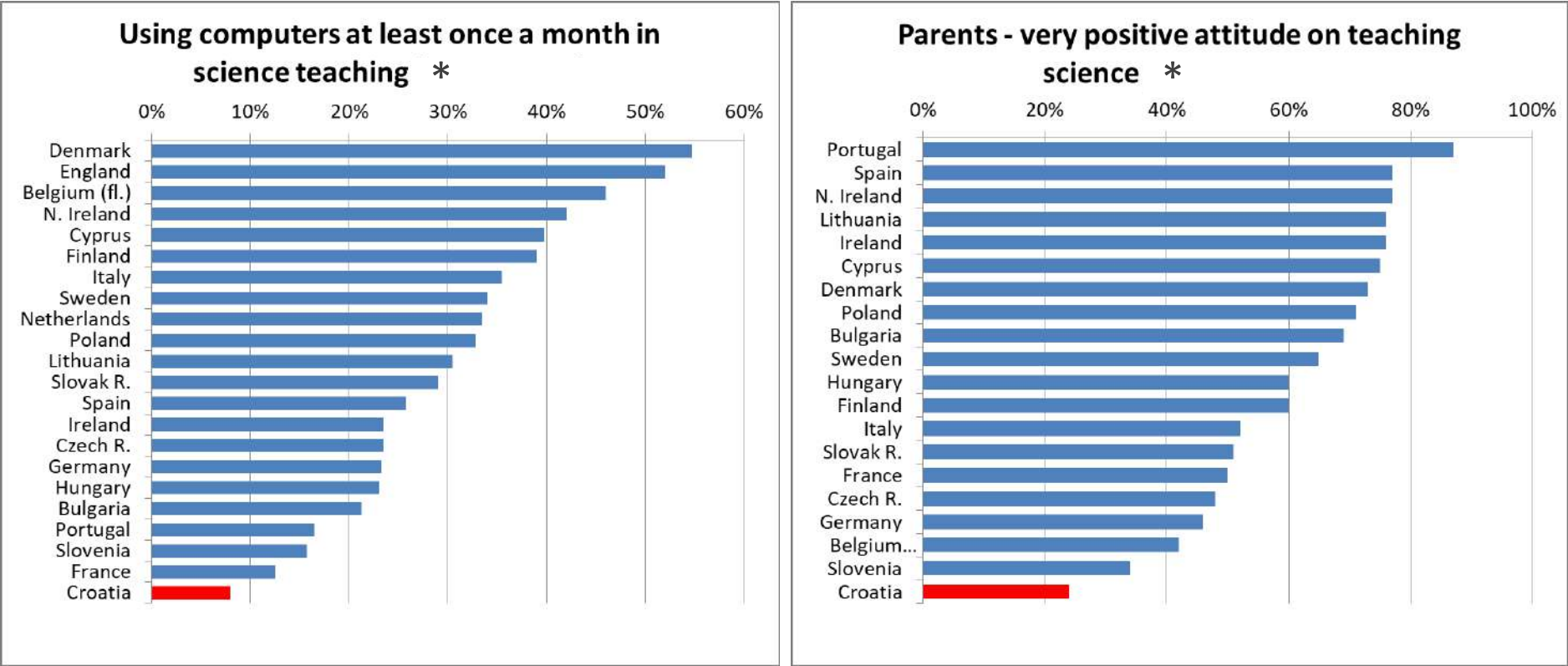
creating equal opportunities for new generations



July 2019

# Challenge for Croatia:

There is a significant gap in using technology in STEM teaching  
(Science, Technology, Engineering, Mathematics)



• Source: According to the most relevant international research for elementary schools, TIMSS

# Project Goal:

We will accelerate **Digital Literacy** adoption in Croatia by embedding a game changing technology (micro:bit\*) into formal education in grades 1-4 of elementary schools.

**School libraries** will be transformed into **Digital Hubs** through deployment of micro:bit devices, supported with rich **content and training**. These digital hubs will be used to introduce **conceptual coding** nation wide in lower grades creating transformational effect and impact.

This way we'll help kids be prepared and equipped for the 21<sup>st</sup> century global challenges opportunities thus radically improving **equality of opportunities** irrespective of country's GDP, gender, school systems or personal preferences.

We'll use proven partner and implementation model to ensure that Croatia becomes **the first EU country** to have highly interactive coding introduced from **grade 1**, setting an inspirational path for **other countries to follow**.

\* **micro:bit** is owned by a not for profit 'The Micro:bit Education Foundation', whose founders include BBC, Microsoft, Amazon, Samsung and others.

# Reasons to Believe (1): micro:bit technology

**This project is a game changer**, introducing digital literacy in the form of STEM (Science Technology Engineering Mathematics) skills and conceptual coding.

This small piece of technology, mighty microprocessor **micro:bit**, interacts with the environment via visual interface (red LEDs) and a set of sensors (light, temperature, accelerator, compass) which can be used for all sorts of cool creations, from lightbox and physics to musical instruments – the possibilities are endless.

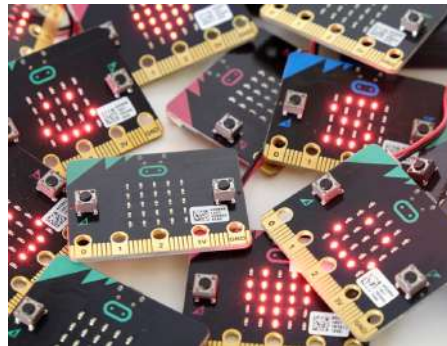
<https://microbit.org/guide/>

It's unprecedented scalability, due to the low device cost and proven implementation platform, will be used to make a national level deployment. This way, generations of kids in Croatia will be better prepared for digital future, fostering innovation, creativity, teamwork and problem solving.

We are targeting the implementation early on, in lower grades, before geographics, wealth, gender or culture shapes their lives and makes the gap deeper.

The project is characterised by

- Equal opportunities enablement
- Sustainability
- Transformational impact



## micro:bit global references:

### 2017 Singapore

- 100,000 micro:bits for 'schools and families'
- Singapore has without any doubt the best schooling system in the world

### 2018 Denmark

- all 5<sup>th</sup> grade students
- project of Confederation of Danish Industry, National TV and the Ministry of Education

### 2017 Canada

- 100,000 micro:bits

### 2019 Sri Lanka

- national pilot in 1,000 schools

### 2019 Switzerland

- Digital libraries pilot

**2019 UK grant in the Western Balkans**, of 10 million GBP for development of computing the main tool micro:bit

# Reasons to Believe (2):

## Our strategic partner IRIM

IRIM: Institute for Youth Development and Innovativity – Croatian Makers



- IRIM runs largest extracurricular STEM program in the EU, a well defined ecosystem that emphasizes equal opportunity and also development of excellence

- ProMikro – Together with the Ministry of Education introduced programming into 6<sup>th</sup> grades: 85% of all schools are learning how to program on a micro:bit

- Robotics league with 3,000 donated robots and 600 institutions participating

### IRIM global recognition:

- **Financial Times:** Europe's Road to Growth – Digital champions
- **Google** Donation (global) 250,000 USD for developing regional public libraries into digital skills development centers





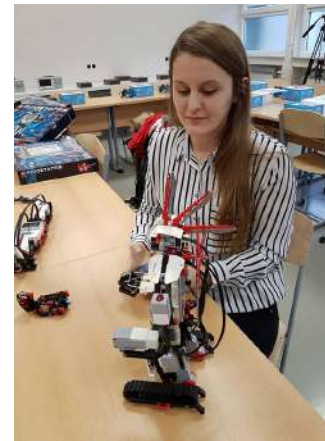
# Reasons to Believe (3):

## STEM initiatives in Rotary District 1913

- RC Zagreb Centar & IRIM: **STEM car** (STEM laboratory and training center on wheels, providing training in remote areas, out of school season, 2015-2019)
- RC Zagreb Centar **GG Highschool Glina, Bridge to a Better Future** (Computer classroom, Robotics, Digital photography, electrical engineering, 2016-2018)
- RC Varaždin: GG Rotary **STEM Lab** (33 schools with 10 Inventor sets and 100 teacher training) 2019
- RC Zagreb Sljeme, RC eClub, RC Zagreb center,, RC Zrinjevac: **Public Libraries as Digital Hubs** in 5 Croatian cities, 2018
- RC eClub Croatia - **STEM micro:bit lab in SOS Children Village**, Austria, 2019
- RC Zagreb Center – **Sri Lanka pilot: 1000 micro:bit**, 2019
- Rotary District 1913: **micro:bit pilot Slavonia** (school libraries in 57 elementary schools in Slavonia region, 2019)
- RI Convention Hamburg : **STEM Revolution Stand**, 2019



We are ready for this large scale  
Global Grant project!



# Implementation Steps:

1. Utilise IRIM's experience and proven implementation model to reach and communicate program benefits. Identify motivated schools in Croatia nationwide to transform their libraries into digital hubs
2. Provide on average two sets of 20 micro:bits to each library/digital hub
3. Assign a local Rotary Club ambassador to provide support and ensure adoption
4. Provide online access to localised training materials, use cases and ideas in various disciplines, both STEM and humanities
5. Provide two rounds of on-site training to library staff, teachers and kids, to support existing curriculum (no change of curriculum – no shock to the system – easy absorption)
6. Integrate program with robotics and/or IT training in higher grades
7. Measure outcomes and create scalable concept

# Budget & Funding Plan

BUDGET ITEM		Cost \$	FUNDING SOURCE	Amount \$
Micro:bit devices (each 15\$) for estimated <b>700 digital hubs</b> for national coverage		420.000	Host Rotary Clubs, Corporate donations	125.000
Training, two rounds x 150\$, each hub		210.000	District 1913 DDF	15.000
Distribution – Croatian post		donation	International Rotary Clubs	200.000
Training materials in Croatian - IRIM		donation	International DDF	100.000
Other Cost		10.000	World Fund Match	200.000
<b>TOTAL:</b>		<b>\$640.000</b>	<b>TOTAL:</b>	<b>\$640.000</b>

First club/district to secure contribution of \$50.000 in cash and \$50.000 in DDF will be the **Primary International partner** of this project.



# How Can You Contribute?

- Become a part of this transformational journey and give a pledge until September 25<sup>th</sup>, or at the earliest possible opportunity, so we can plan.
- Global Grant Application must be submitted until September 30<sup>th</sup>, Trustee approval is expected in February 2020.
- Need more information about the project:
  - **Zoran Zic** , RC Zagreb Sljeme – **International Partners contact**
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<https://www.facebook.com/digitalliteracyrevolution>



Coming soon ... search < Rotary Digital Literacy Revolution >

A photograph of three students in a computer lab. On the left, a boy with short brown hair is smiling and holding a small electronic component. In the center, a girl with long brown hair is smiling and holding a similar component. On the right, another girl with long brown hair is smiling and holding a component. They are all wearing blue t-shirts. In the background, several computer monitors are visible, some displaying code or data. The overall atmosphere is positive and educational.

TOGETHER, WE

TRANSFORM

Rotary



PEOPLE OF ACTION