

8 PAGES  
OF EXCITING  
CONTENT!  
Pages 1-8



# ARNES

# ROVAVZUJEM



WOW! I'VE JUST  
READ THE WHOLE  
OF WIKIPEDIA!



**BRAINS  
WITH COMPUTERS**

WHERE'S  
THAT HIGGS  
BOSON?



**SCIENTISTS  
WITH GOD PARTICLES**

DON'T WORRY,  
IT'S ONLY VIRTUAL  
REALITY. YUMMY!



**SCHOOLKIDS  
WITH DINOSAURS**

TYPE \*#0011#  
TO ENTER SERVICE  
MODE AND TURN  
OFF "WI-FI POWER  
SAVE MODE".



**ENTHUSIASTS  
WITH EXPERTS**

MARS IS INVITING  
ME TO TAKE A  
DANCE AROUND  
THE SUN!



**EARTH  
WITH MARS**

I'M FLYING  
TO SCHOOL!



**SCHOOLS  
WITH CLOUDS**

# 25 YEARS CONNECTING



**A word from the Director**



**A**

ARNES was set up 25 years ago in order to offer researchers, schools and other knowledge institutions all the advantages of technology and cooperation that a global computer network can bring. Similar networks were growing in many other countries as a part of a wider European initiative from which the GÉANT network evolved.

ARNES was not alone in introducing the internet to Slovenia – we collaborated and shared knowledge. But the decisive factor for the rapid and successful penetration of the internet was that it spread at the speed of light through universities, libraries and schools, among students, professors, teachers and parents.

The arrival of a new technology is a complex social process. First of all it needs an efficient and reliable infrastructure – which in the research and education field is ARNES's job. On this basis we are able to develop tools that make people's work easier or open up countless innovative opportunities that allow them to work differently and, above all, better. At the same time it is important not to leave users alone through all the various changes.

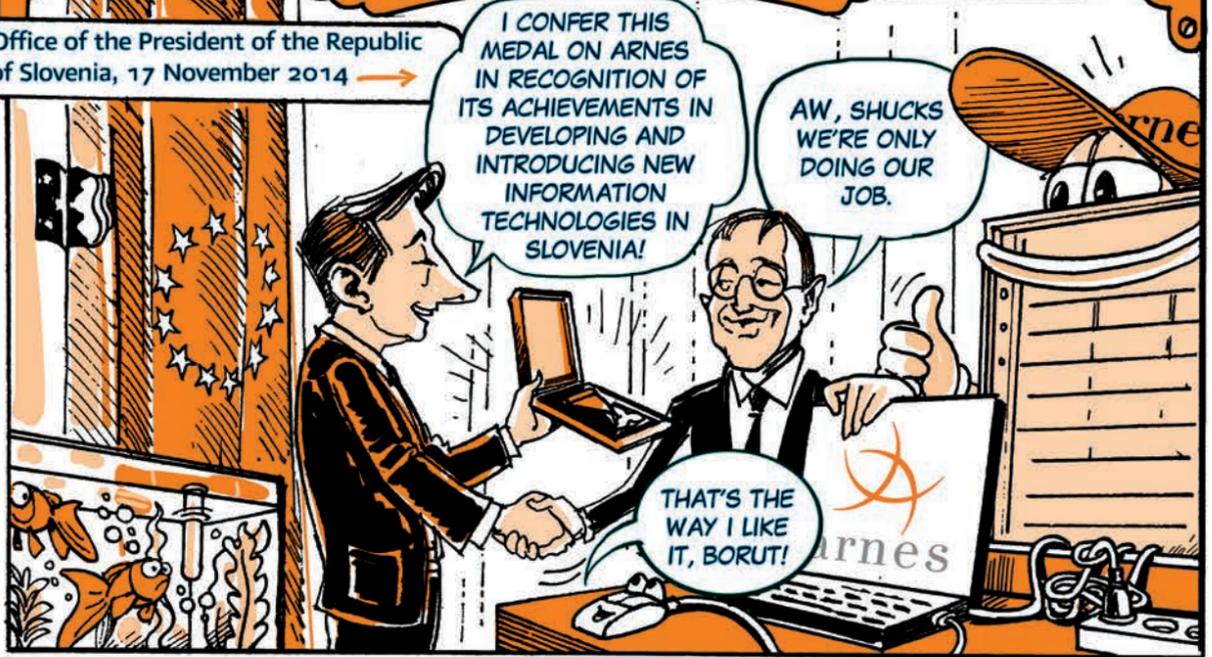
ARNES has always endeavoured to carry out its mission – providing conditions and support for the introduction of information technologies – in a holistic manner. This means that we are happy to pass our knowledge on and work together to address the challenges involved in the use of new technologies and services, to educate and to help people use them.

It is probably no coincidence that after a quarter of a century of introducing information technologies, ARNES's key focus is on raising awareness: how to use technology intelligently, how to avoid traps, how to protect one's data and maintain privacy. Together we have created something that is changing the world. How we use our creation is up to us.

Marko Bonač

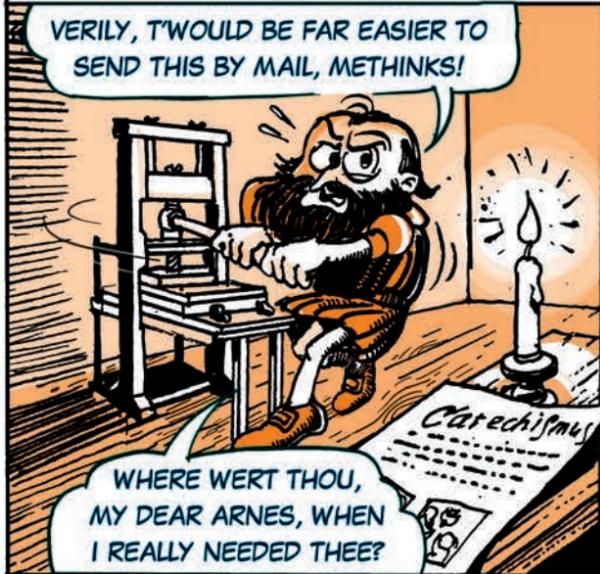
**ARNES IS ABOUT PEOPLE**

Office of the President of the Republic of Slovenia, 17 November 2014



**Not just an excellent team of professionals, ARNES is also about users!**

Circa 1550. In a secret location somewhere in present-day Germany, Primož Trubar, the father of the first Slovene book, was already thinking about us...



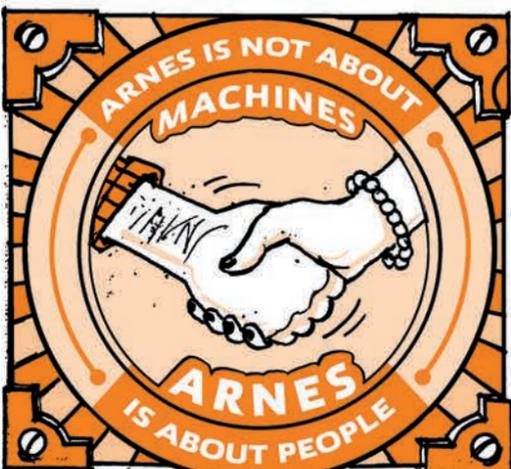
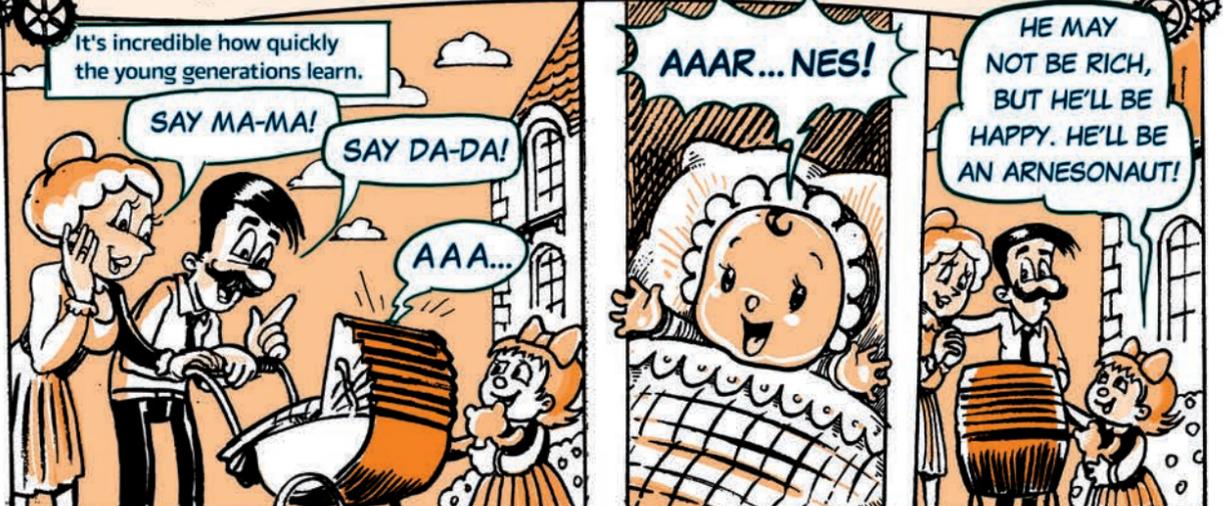
Mrs F. Novak of Planina, the last known user of a dial-up modem (those old modems that whistled when connecting to the internet), late 2016.



**We connect nurseries, primary and secondary schools, universities and research institutions with fibre optics!**



**ARNES is about people: old and young, parents and children!**



### Mid-1990s

We love mountains. We love computer servers. So we name them after mountain peaks. But Triglav wasn't the main one: in the 1990s access to Stenar meant access to the internet.



## ARNES MAKES HISTORY

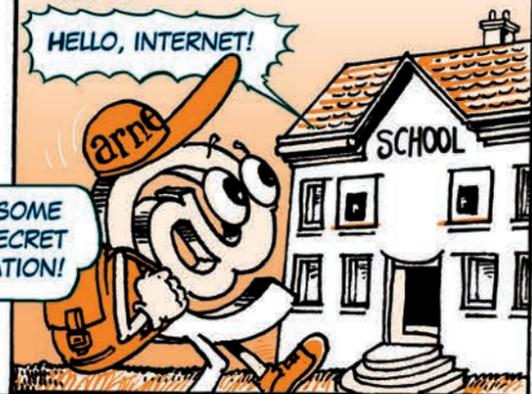
Even before ARNES was born, Stenar played its own role in Slovenian independence. Our engineers, researchers and the media kept colleagues abroad informed about the break-up of Yugoslavia via an early version of email.



### 1994 onwards

ARNES brings the internet to Slovenia's schools.

HELLO, INTERNET!



**1992** ARNES registers the first domain name with the two-letter country code .si. Since then Register.si has looked after the functioning of the Slovenian web. The number of registered domain names grows from year to year.



### 1995

SI-CERT (Slovenian Computer Emergency Response Team), the national response centre for handling incidents relating to the security of electronic networks and information, is born.



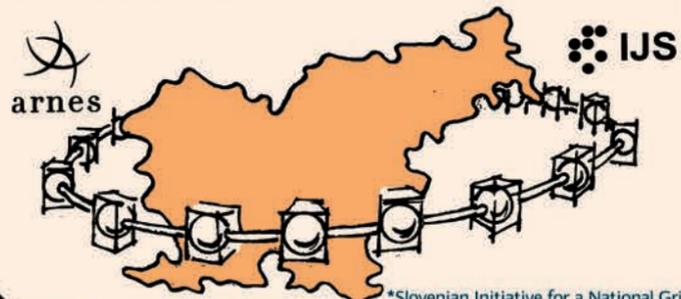
### 1996-1997

Students chat online with their peers in England (hanging out in internet relay chat rooms, aka IRC networks). Sometimes online battles went beyond words. Fortunately we were able to intervene.



### 2009

In conjunction with the Jožef Stefan Institute, ARNES creates the supercomputer network SLING\*, offering easy access to distributed infrastructure for parallel computing and data processing.



### 2012

Using LOLA technology, we stage the first synchronised concert in Slovenia featuring musicians performing in different countries. Perfect sound and images, with no delay.



### 2017

For 25 years, our hard work has been making life easier for our users. Follow our exploits at your leisure via your preferred media.



# QUARTER OF A CENTURY,

**WE'RE BUILDING SCHOOLS IN THE CLOUD...**



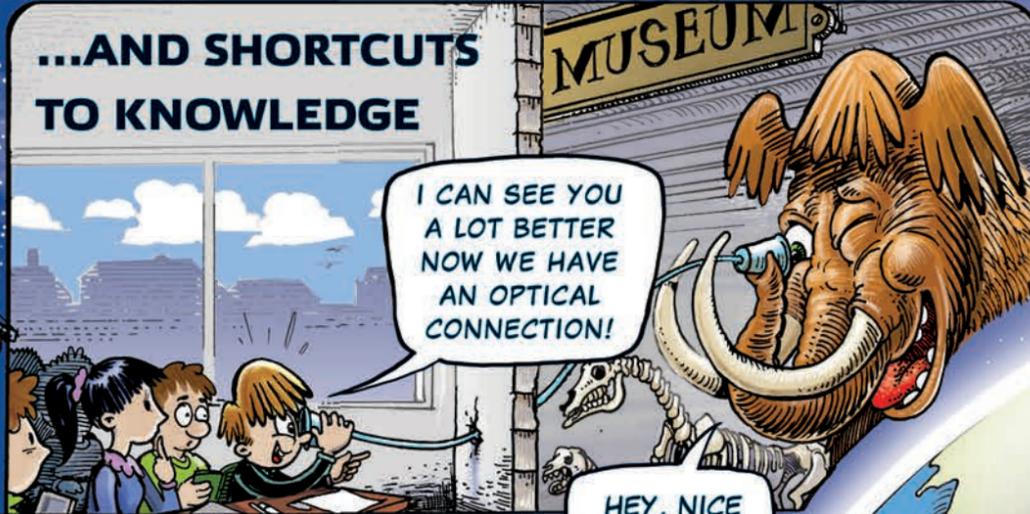
Cloud computing services come with support from top ARNES experts. In this way ARNES saves half a staff position at every school.

AT EVERY SCHOOL...



...WE SAVE HALF A PERSON!

**...AND SHORTCUTS TO KNOWLEDGE**



I CAN SEE YOU A LOT BETTER NOW WE HAVE AN OPTICAL CONNECTION!

HEY, NICE HAIRCUT!

**SUPERCOMPUTERS ARE ALSO CONNECTED TO THE GÉANT NETWORK.**



WE SUPERCOMPUTERS ARE ALWAYS ON. WE HUM AWAY QUIETLY, BUT SAY AS ONE: **COUNT ON US!**

SLOVENIA'S TEAM OF SUPERCOMPUTERS IS CALLED **SLING**.

I'M JUST CALCULATING DNA. CAN I COUNT ON YOU A LITTLE?

**WE PROVIDE AAI AND EDUROAM**

Users access services using the same account. They connect to the wireless network securely and free of charge.

I CAN USE THE SAME ACCOUNT EVERYWHERE.



Israel



Greenland



Australia

SOMETHING FOR NUMBERS NERDS. DIVIDE THE NUMBER OF ORGANISATIONS BY 12 AND YOU GET A NICE THREE-DIGIT NUMBER.



$$1476 : 12 =$$

WE CONNECT 1,476 MEMBER O

# QUARTER OF A MILLION USERS

nes

ARE

ECTED

IT HIGH-SPEED

WORK



THAT'S WHAT I CALL FAST!

15h

720h

## THE SLING NETWORK

connects together Slovenia's supercomputers, on which we can calculate some amazing things. Researchers from the Jožef Stefan Institute were able to calculate the power consumption of the Mars Express probe in a mere 15 hours (rather than a month), and thus win a European Space Agency competition.

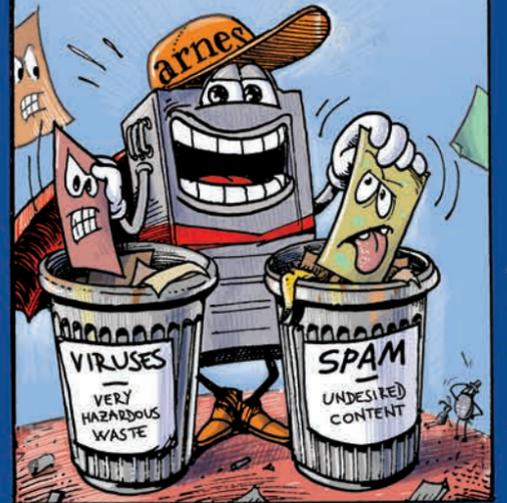


$$m_H^2 = (m_H^0)^2 (m_H^2) + \frac{3g^2 A_H^2}{32\pi^2 m_W^2} (m_H^2 + 2m_W^2 + m_Z^2) + \frac{3g^2 m_H^2}{64\pi^2 m_W^2} \left( m_H^2 \ln \frac{A_H^2}{m_H^2} - 2m_W^2 \ln \frac{A_H^2}{m_W^2} - m_Z^2 \ln \frac{A_H^2}{m_Z^2} \right)$$

I HELPED CALCULATE THE HIGGS BOSON AND I'D BE HAPPY TO HELP NOW TOO!

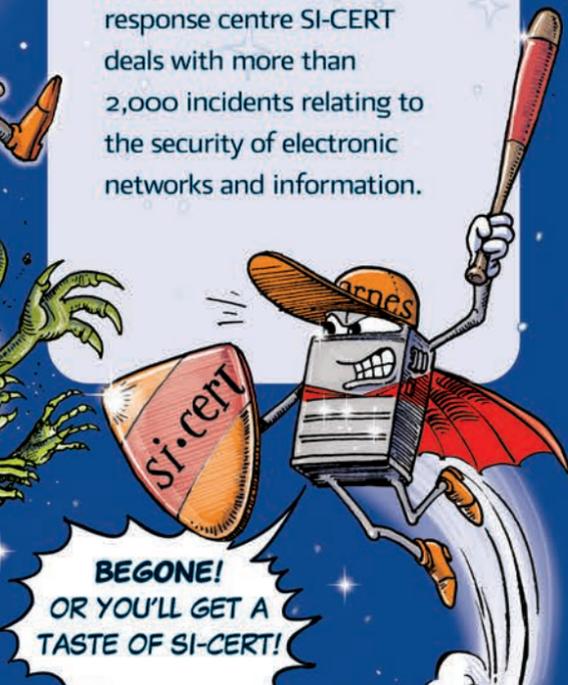


## IN 2016 WE ELIMINATED 54 MILLION ITEMS OF SPAM



## WE PROTECT YOUR DATA AND SEPARATE E-RUBBISH

Every year the national response centre SI-CERT deals with more than 2,000 incidents relating to the security of electronic networks and information.



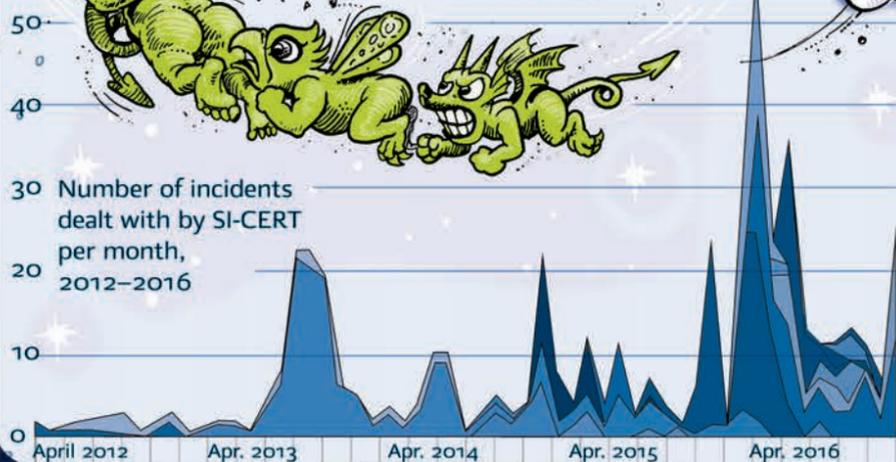
BEGONE! OR YOU'LL GET A TASTE OF SI-CERT!

## WE EDUCATE

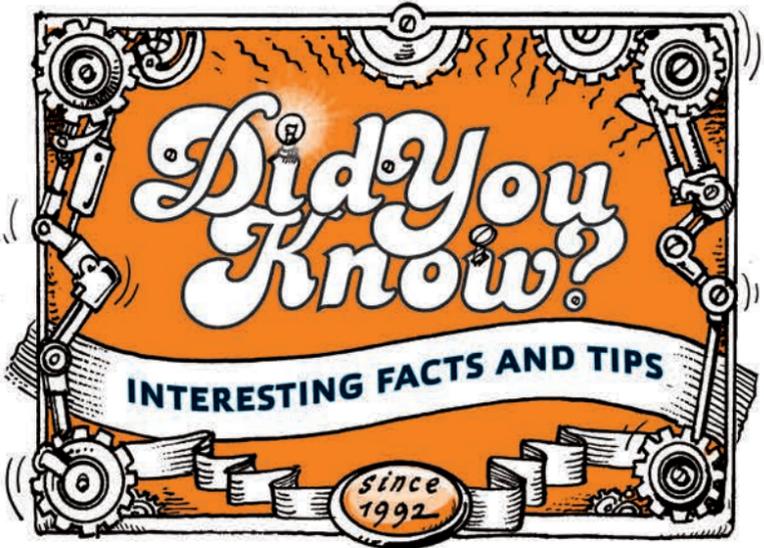
We've learnt a lot at ARNES over the last 25 years and we love to share our knowledge. With us you can learn to use technology safely.



Ransomware campaigns

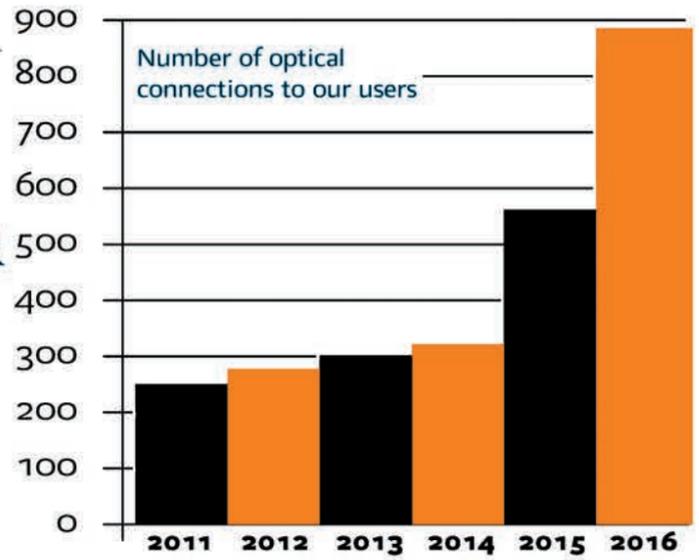


ORGANISATIONS



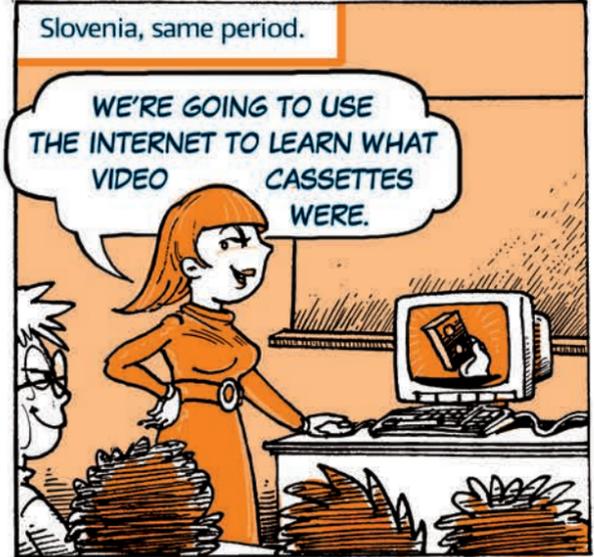
## ARNES HAS MORE WORK EVERY YEAR

In 2017 we are already looking after **8,000** kilometres of optical fibres. That's the equivalent of 14 million open copies of this newspaper placed end to end!



## ARNES HAS ALWAYS BEEN IN STEP WITH THE TIMES

In the late 1990s we Slovenes were pretty cool dudes, thanks to ARNES. While in some parts of Europe schools were still simulating the internet, schools in Slovenia were already using it.



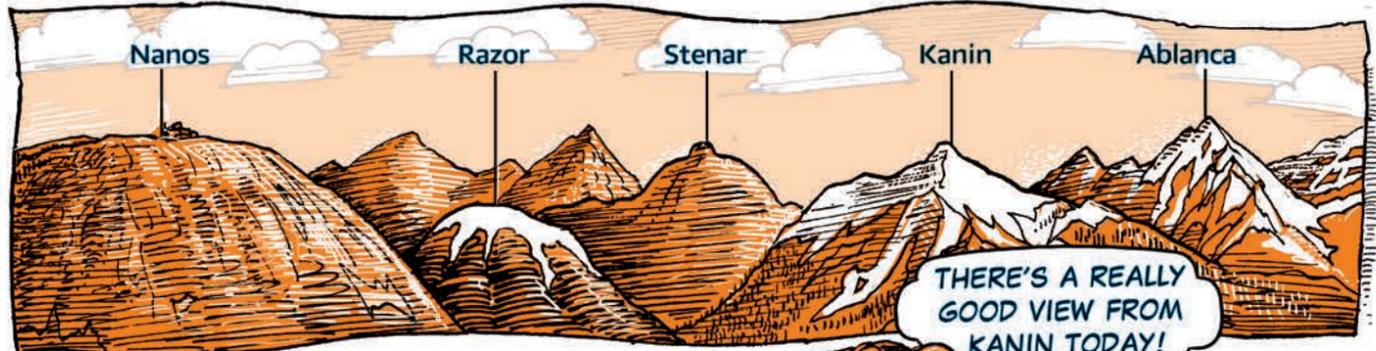
## ARNES HAS THE BEST SUPPORT



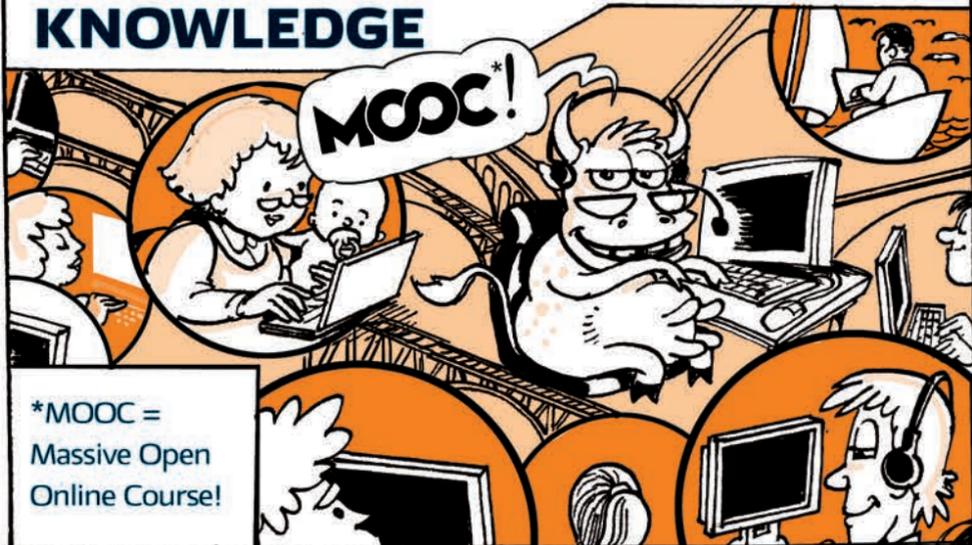
Although computer-related jobs are often considered a predominantly male domain, more than a third of the ARNES team are women.



## ARNES HAS TOP NOTCH SERVERS AND TOP NOTCH EXPERTS

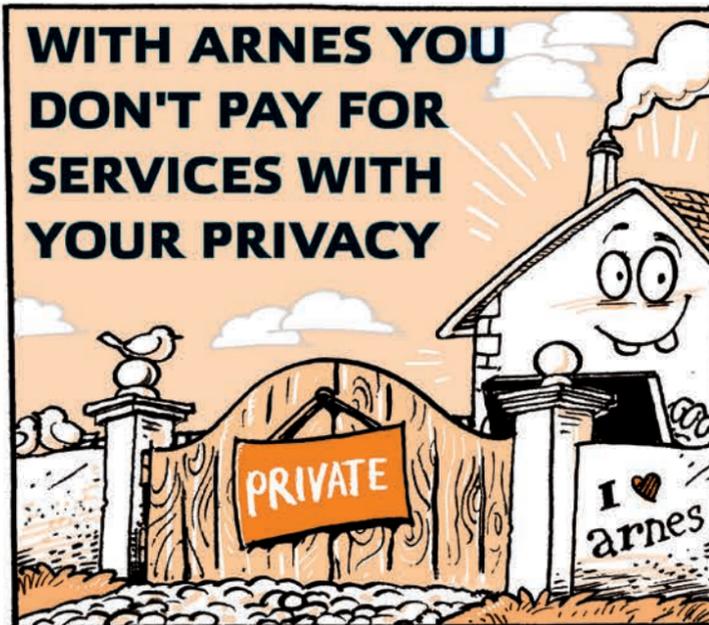


## ARNES BUILDS BRIDGES TO KNOWLEDGE

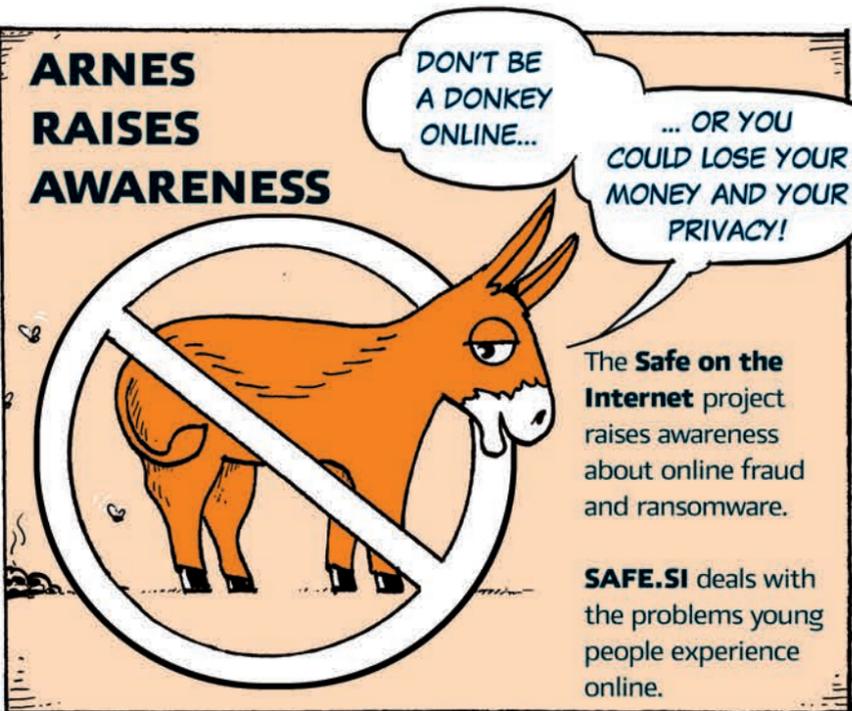


\*MOOC =  
Massive Open  
Online Course!

## WITH ARNES YOU DON'T PAY FOR SERVICES WITH YOUR PRIVACY



## ARNES RAISES AWARENESS

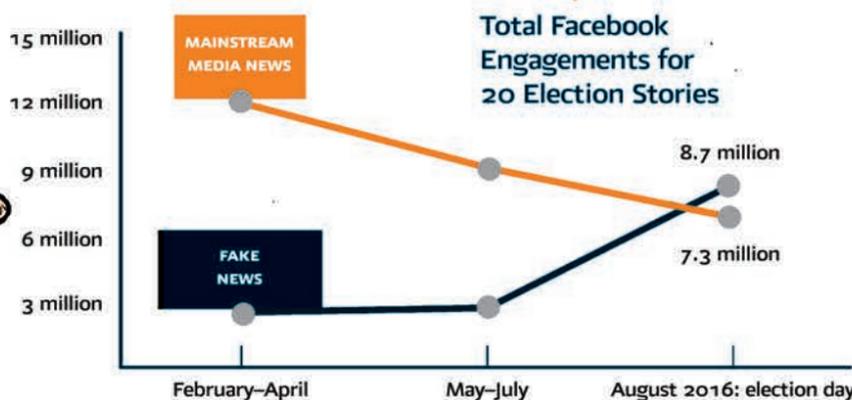


The **Safe on the Internet** project raises awareness about online fraud and ransomware.

**SAFE.SI** deals with the problems young people experience online.



## FAKE NEWS SPREADS FASTER THAN REAL NEWS



An end to your money worries!

Take advantage of this opportunity from Nigeria!

## Special offer for all readers of this newspaper!

My uncle the king, he deposed in military coup. I need help to get lotta money. I give you 15% of 20 million dollars. Please, transfer 120 euros to Superbank Account Number 2000-0000-7826-PB9 so we activate account to transfer money to bank account. If you are willing to work with me, please reply to me as soon as you can so that I will give you full details about the project as well as all my personal details. Eagerly waiting to hear from you. Have a blessed moment.

Faithfully,  
Miss Olive Perle Garna

100% ORIGINAL



This is a totally genuine advertisement based on a well-known Nigerian scam. This incredible offer is available for a limited time only. The editors accept no liability for any loss of part or all of your personal assets. So don't be a donkey, okay?

# WHERE ARE WE GOING IN THE FUTURE?

By 2020 ARNES will have built advanced wireless networks in 900 schools and equipped them with modern equipment.

We are already capable of building schools in the cloud and perhaps we will soon be able to connect their students – the scientists and researchers of tomorrow – with colonies on Mars.

Whatever challenges future decades may bring, it's good to have experts on your side – friends who are willing to help.

*Don't panic.  
Your  
Arnesonauts  
are here.*

## Instructions for use

You are holding the latest iteration of an application called "National and EarthWide System for the Propagation of Accurate Present Event Reports" – or "NEWSPAPER" for short. The instructions for use are very simple. Open and read. After use, store in a visible place or pass it on. NEWSPAPER requires no battery: it's an energy-autonomous device. Its cellulose structure guarantees molecular-level resolution.

Illustrations: Ciril Horjak alias Dr Horowitz, words: ARNES, Ciril Horjak and Jure Stojan, translation: Amidas, English typeset: Dejan Kotnik  
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arnes