Achieving
Digital Maturity
of distance education
in the times of COVID-19

Rok Kvaternik, CEO

Ernst Klett Publishers,
Eastern Europe & Baltics

Klett

**EPF Open meeting "Virtual Frankfurt"
October 16th, 2020**

Klett EE & Baltics

KLETT OPERATIONS IN THE REGION

Bulgaria (3 brands)

Croatia

Czech Republic

Greece

Montenegro

Poland

Romania

Serbia (3 brands)

Slovenia (2 brands)
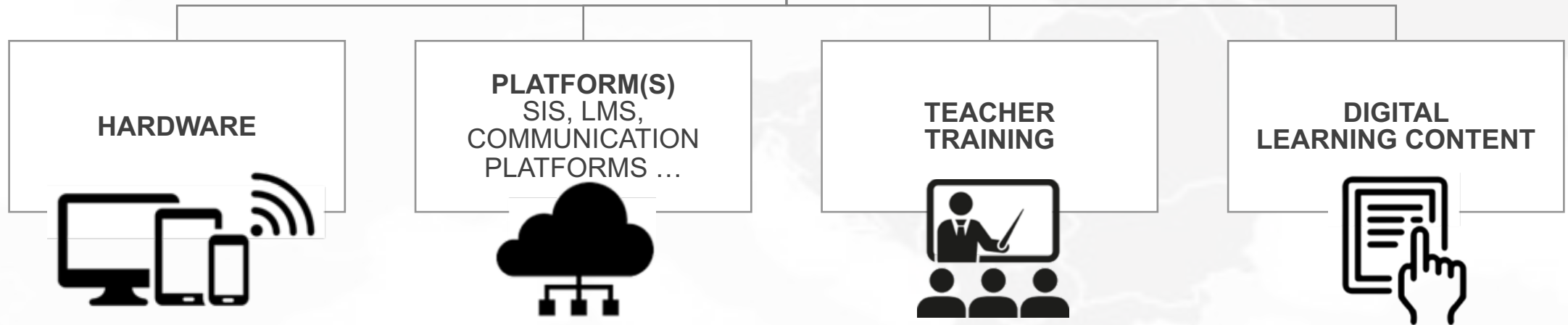
The impact of the lockdown

Key findings regarding the use of digital learning solutions during the lockdown

- Publishers instantly enabled free access to their digital textbooks.

- Rapid growth of use: approximately **8x** on average (teachers and students).

- Faster growth in the segment of students.

HOWEVER, majority of teachers and students WERE NOT USING digital teaching/learning materials, even if using online communication platforms – **with exceptions!**

Key dilemma: LONG-TERM IMPACT?

Country	Growth in the number of digital users
Bulgaria	10x
Croatia	7x
Czech Republic	10x
Estonia	2x
Greece	5x
Lithuania	10x
Poland	16x
Serbia	6x
Slovenia	6x

Prevailing approach

Bulgaria	Video lessons based on **PRINTED** textbooks (photographed or simple pdf-based e-textbooks). Lessons on TV as backup.
Croatia	Lessons on TV for younger students, with related assignments from **PRINTED** textbooks and worksheets sent by teachers via email. Video lessons for older students, with assignments, mostly from **PRINTED** textbooks and worksheets, shared through communication platforms.
Czech Republic	Self-learning from **PRINTED** textbooks based on instructions sent by teachers via SIS or email. Main subjects backed with lessons on TV.
Estonia	Regular video lessons by a vast majority of teachers, extensive use of communication platforms, LMS assignments based on **DIGITAL** textbooks.
Greece	Video lessons for older students, based on **PRINTED** textbooks, conducted by less than 50% teachers. Others used the state platform for sharing instructions, related to **PRINTED** textbooks, worksheets and exercises for work at home. Lessons on TV (only revision, no new content) + worksheets emailed by teachers or sent via the state platform to younger students.
Poland	In higher grades, the distance education depended on individual teacher's approach which mostly resulted in self-learning from **PRINTED** textbooks, based on instructions and assignments sent by teachers via SIS or email, supplemented with e-materials from the ministerial platform. Younger students learnt from lessons on TV and related assignments from **PRINTED** textbooks sent by teachers via SIS or email.
Serbia	Lessons on TV with assignments from **PRINTED** textbooks or exercise books and worksheets, sent by teachers to students via Viber or email. Teachers included in the "Digital classroom" project connected assignments with the content of **DIGITAL** textbooks.
Slovenia	Distance education depended on individual teacher's approach. Mostly self-learning from **PRINTED** textbooks and worksheets based on instructions published by teachers on the internet or sent via email.

Bulgaria	Video lessons based on **PRINTED** textbooks (photographed or simple pdf-based e-textbooks). Lessons on TV as backup.
Croatia	Lessons on TV for younger students, with related assignments from **PRINTED** textbooks and worksheets sent by teachers via email. Video lessons for older students, with assignments, mostly from **PRINTED** textbooks and worksheets, shared through communication platforms.
Czech Republic	Self-learning from **PRINTED** textbooks based on instructions sent by teachers via SIS or email. Main subjects backed with lessons on TV.
Estonia	Regular video lessons by a vast majority of teachers, conducted via communication platforms, LMS assignments based on **DIGITAL** textbooks.
Greece	Video lessons for older students, based on **PRINTED** textbooks, conducted by less than 50% teachers. Others used the state platform for sharing instructions, related to **PRINTED** textbooks, worksheets and exercises for work at home. Lessons on TV (only revision, from the content). Younger students received worksheets sent via the state platform to younger students.
Poland	In higher grades, the distance education depended on individual teacher's approach which mostly resulted in self-learning from **PRINTED** textbooks, based on instructions and assignments sent by teachers via SIS or email, supplemented with e-materials from the ministerial platform. Younger students learnt from lessons on TV and related assignments from **PRINTED** textbooks sent by teachers via SIS or email.
Serbia	Lessons on TV with assignments from **PRINTED** textbooks or exercise books and worksheets, sent by teachers to students via Viber or email. Teachers included in the "Digital classroom" project connected assignments with the content of **DIGITAL** textbooks.
Slovenia	Distance education depended on individual teacher's approach. Mostly self-learning from **PRINTED** textbooks and worksheets based on instructions published by teachers on the internet or sent via email.

… BASED ON
… FROM
… RELATED TO

PRINTED TEXTBOOKS

Case by case

Seven case studies

7

Croatia

Serbia

Bulgaria

Slovenia

Montenegro

Estonia

Lithuania

Estonia

Lithuania

Slovenia

Croatia

Serbia

Montenegro

Bulgaria

Croatia

"E-SCHOOL" & "SCHOOL FOR LIFE" PROJECTS, 2015–2022 (ONGOING)

- internet and hardware for schools, incl. laptops for teachers
  and tablets for students (approx. 208 thousand tablets so far!);
  hectic hardware distribution

- teacher training and formation of teacher communities

- digitalization of processes / SIS

- tenders for digital OER (creation and revision),
  digital teacher materials and OER authoring tool

- empty promises – publishers to receive fees for **potential** use of their
  digital textbooks depending on the level of interactivity estimated
  during approval procedure: 10%, 20% or 30% of related printed textbooks
  price per student, **regardless of actual usage!**

217 M€
+
57.2 M€

6.1 M€

0 €

Croatia

OUTCOMES

- low use of digital OER – less than 10% of teachers

- OER practically not used by students

- obvious misuse of EU funds (usually representing 85% of the total project value)

- Klett invested in real digital textbooks and LMS (IZZI platform),
  other publishers offered pdf-based e-textbooks enriched with learning objects

- legislation does not support digital textbook development and growth of usage

- **print prevails = no influence on the paradigm**

BC (before corona):   **very low use**
DC (during corona):   **7x growth**
AC (expectations after corona):   **use potentially 2–3 times higher
than BC but generally expected to remain low**

Serbia

"DIGITAL CLASSROOM" PROJECT 2018+ (ONGOING)

Pilot project "2,000 digital classrooms" in the 2018/2019 school year

- hardware (laptop, beamer, stand) assigned to pre-defined teacher's classroom
- internet access
- teacher training
- teacher mentorship (network of mentors)
- digital textbooks + LMSs provided by ALL existing textbook publishers: licenses paid by the ministry

Gradual expansion in the years 2019–2021

Serbia

Number of teachers included in the project per segment/grade/school year

Segment	Grade	School year			
		2018/2019	**2019/2020**	**2020/2021**	**2021/2022** expectations
primary	1	1,000 (25%)	4,000 (100%)	4,000 (100%)	4,000 (100%)
	2		3,000 (75%)	4,000 (100%)	4,000 (100%)
	3			4,000 (100%)	4,000 (100%)
	4				4,000 (100%)
lower secondary	5	1,000 (4%)	3,000 (11%)	~ 15,000 (55%)	27,000 (100%)
	6				
	7				
	8				
upper secondary (*gymnasium*)	1				4,000 (100%)
	2				

Serbia

Gross values	School year		
	2018/2019	**2019/2020**	**2020/2021**
total government investment	2.96 M€	10.07 M€	14.09 M€
hardware	2 M€	7.8 M€	9.6 M€
teacher training	0.6 M€	0.34 M€	0.12 M€
licenses	**0.36 M€**	**1.93 M€**	**4.37 M€**
model	180 € / teacher = 11 € / student	36 € / subject-class = 11 € / student	36 € / subject-class = 11 € / student
digital market in total textbook market	**1%**	**6%**	**13%**

Serbia

OUTCOMES

- rapidly growing use of digital textbooks
- growing importance of digital textbooks in textbook selection process
- publishers invest in quality digital solutions
- publishers invest in additional teacher training
- usually one platform selected by teachers for one school (unique user experience)
- analytics in one Learning Management Systems per school
- **print still prevails but the paradigm is changing rapidly**

BC: use gradually growing
DC: 6x growth
AC: use expected to remain high and keep growing at an even faster pace

Bulgaria

PERIOD 2009–2013

- outsourced digital content for STEM subjects
- no technical equipment in schools = very few users

0.6 M€

PERIOD 2014–2020

- regular tenders for internet and hardware
- 40 pilot schools with tablets – publishers to deliver
  free content (as a marketing tool): project terminated in 2016
- schools apply for financing SIS (2018–2019)
  and digital content for teachers (2018)

40.8 M€

SINCE 2018

- publishers obliged to publish freely accessible pdf-based textbooks
  – a fee of approx. 3% of printed textbook value paid by the ministry

Bulgaria

PERIOD 2019–2022 (ONGOING)

- development of national cloud environment and central platform

- further investments in hardware

- teacher training

52.6 M€

- digital OER to be created and evaluated by a group of trained teachers (approx. 80 € for creation + approx. 30 € for evaluation per learning object)

- digital open source content (foreign and domestic) to be identified, localized and evaluated by a group of trained teachers

1.1 M€

Bulgaria

OUTCOMES (FROM PREVIOUS PERIODS AND EXPECTED)

- digital textbooks from publishers only as a marketing tool (limited or withdrawn investments)
- no development of real learning management systems
- obvious misuse of EU funds
- **print prevails = no influence on the paradigm**
- growing digital afternoon market outside standard textbook publishing business
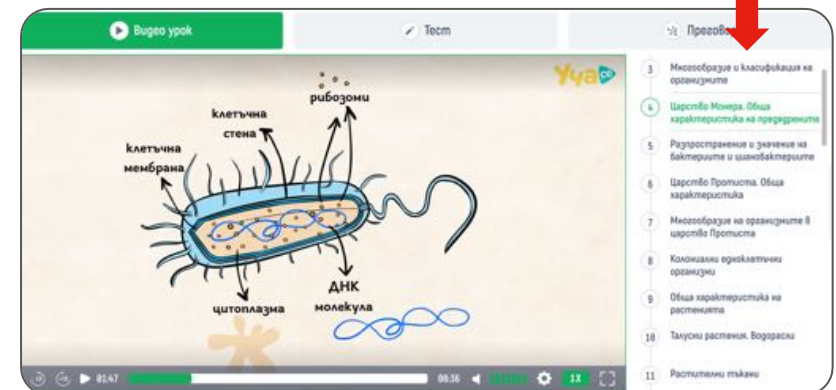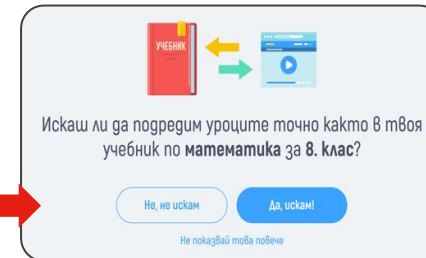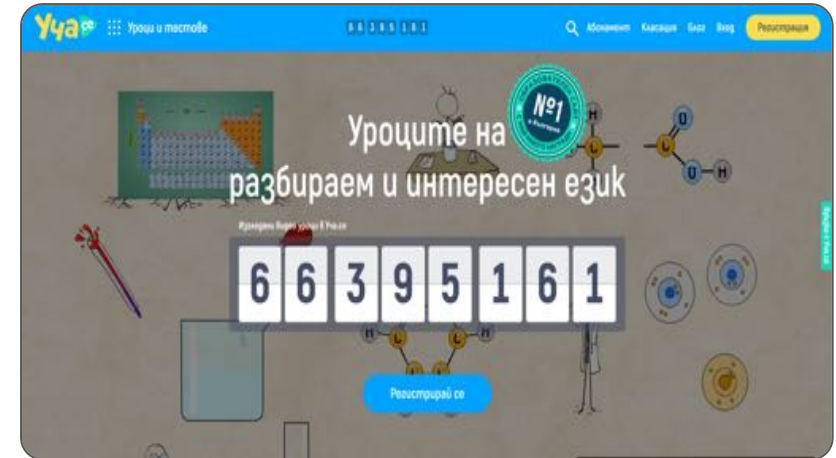
BC: low use
DC: 10x growth
AC: low use, potentially slightly higher than BC
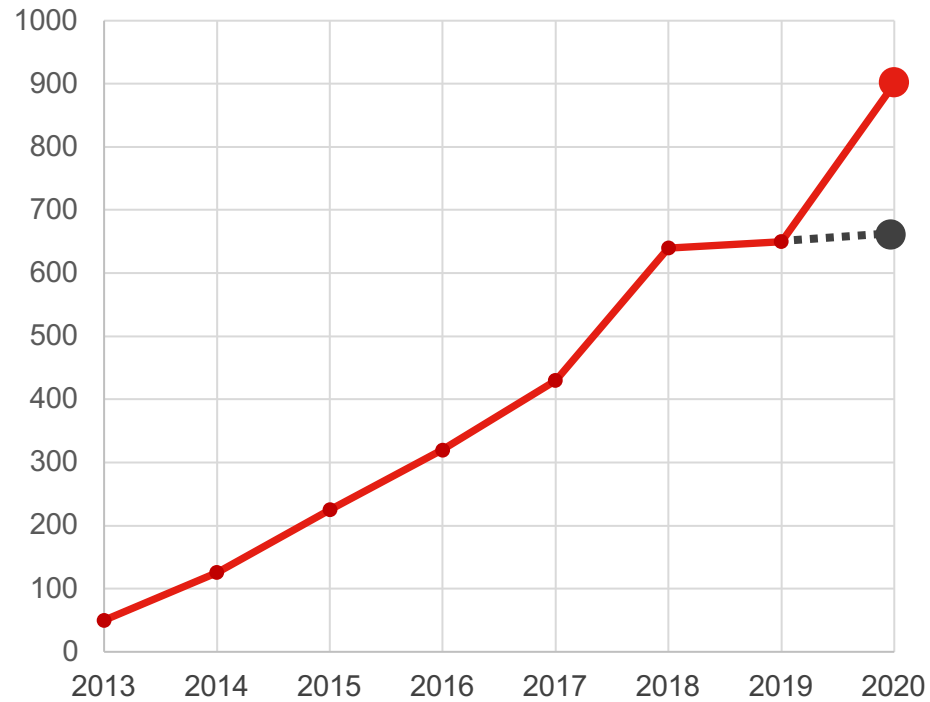
Bulgaria

GROWING DIGITAL MARKET
outside the standard publishing business

- **ucha.se** with 16,000 video lessons, exercises and tests

- all subjects and grades from primary to upper secondary

- two clicks adjust the order/structure of the content making it compliant with ANY approved textbook

- targeting both school and afternoon markets

- annual license in the afternoon market:
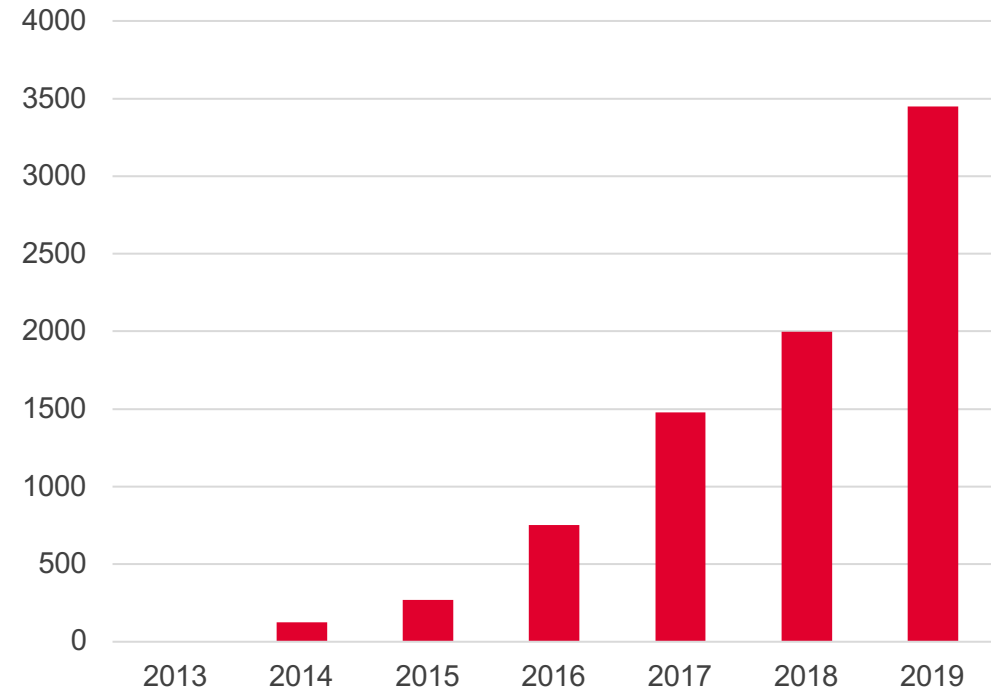 2019: **70 €**   2020: **91.60 €**

Slovenia

A CASE OF STATE POLICY FOCUSED ON DIGITAL OER

PERIOD 2006–2015

- regular investments in hardware & internet

- tenders and projects for OER: **16.9 M€**

- poor quality materials developed by individuals and small companies;
  no participation of textbook publishers due to unacceptable conditions (Creative Commons)

- very low use of the created OER

PERIOD 2016–2018

- no significant actions

2020

- empty promises: student digital basket of 10 €

Slovenia

Actual use = 10%

100% VALUE INVESTED IN THE CONTENT FOR 100% TARGET USERS **=** **10x HIGHER COST PER EACH OF 10% ACTUAL USERS**

35% Experience

47% Recognition

100% All target users

SUBJECT	TENDER VALUE	PER ACTUAL USER
Chemistry, lower secondary	58,098 €	575 €
Biology, lower secondary	51,364 €	723 €
Biology, lower secondary	22,724 €	no users!
Geography, lower secondary	42,947 €	2,863 €
Geography, lower secondary	8,294 €	no users!
Multi-subject, lower secondary	173,182 €	no users!
National language, lower secondary	80,297 €	590 €
Mathematics, upper secondary	75,804 €	no users!
Mathematics, upper secondary	49,328 €	no users!

BC: drastically low use
DC: no significant growth + empty promises
AC: drastically low use

Montenegro

www.uci.me

= teach.me

https://youtu.be/EVhDuVwewY8

Montenegro

"DIGITAL CLASSROOM" PROJECT, 2020+

- introduction of digital textbooks based on the only existing textbooks by the National Institute for Textbooks and Teaching Aids

- digital textbooks for all students and teachers in Grade 1 (497 classrooms, 162 schools, 7,000 students)

- planned expansion to higher grades from 2021

PUBLIC-PRIVATE PARTNERSHIP

- Ministry of Education of Montenegro

- state publisher: National Institute for Textbooks and Teaching Aids

- Profil Klett Publishing / Croatia + National Geographic

- local telecom: mtel

JUN 2020
22

60-day challenge

AUG 2020
20

Montenegro

"DIGITAL CLASSROOM" PROJECT IN 2020

- hardware (laptops, smart TVs, IWBs)

  3.5 M€ (grades 1–6)

- internet connection

  donation by operators

- digital textbooks
- digital teacher's guides
- distance learning guide
- Learning Management System
- (online) teacher training

  developed by Klett, financed by mtel and donated to MOE

Montenegro

INPUT

Existing textbook content

+

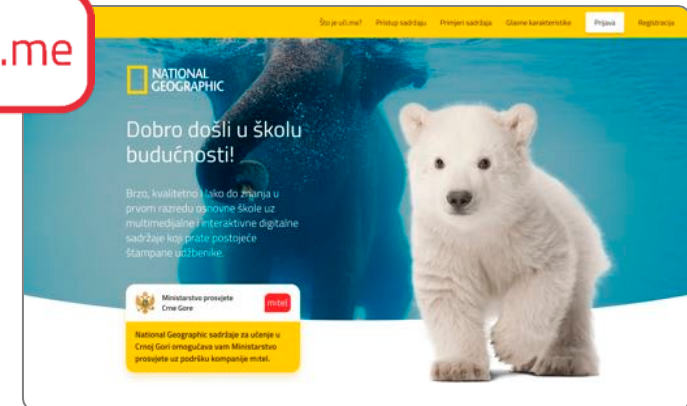**450+ multimedia and interactive learning objects**

+

TOOL

Authoring
tool
+
Distribution
tool
+
LMS

=

OUTPUT

www.uči.me
+
free applications

Montenegro

USERS

- one entry point
- unified user experience
- unified learning analytics
- digital content fully compliant with printed content

STATE

- clear and efficient system
- low costs
- reduced training needs
- **readiness for distance teaching/learning**

COMMERCIAL PARTNER

- PR / brand positioning
- extension of the target market
- sales of extra licenses, services, devices …

BC: no digital materials
DC: no digital materials
**AC:** rapidly growing use in the covered Grade 1
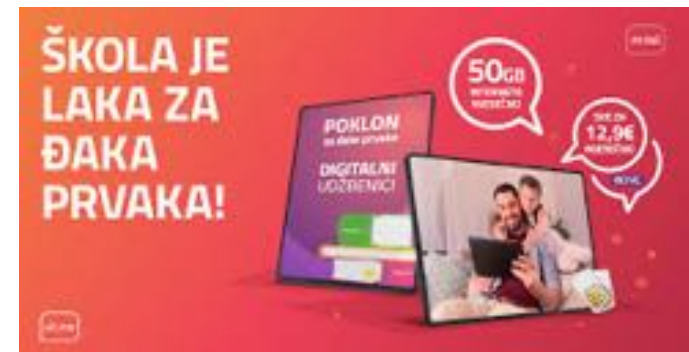
Estonia

OPIQ

www.opiq.ee

OPIQ = "NETFLIX FOR DIGITAL TEXTBOOKS"

- one platform for all publishers (private ownership)

- standard layout and user experience

- publishers voluntarily add their digital textbooks

- several packages including 300 titles

- **paradigm: maintaining stable market volume (print + digital) during transition from print to digital**

- Ministry of Education and Research finances free access for all students and teachers in primary & lower secondary schools: currently at 10 € / student

- **current digital market volume = 13% of the total volume**
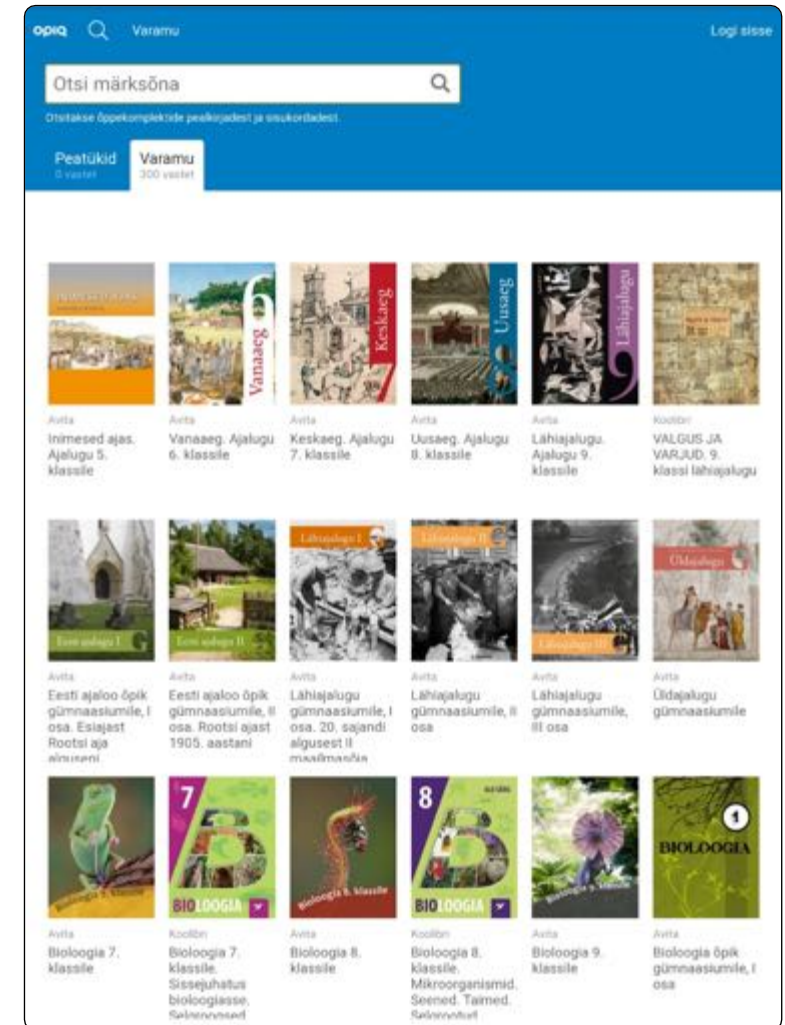
Estonia

SAMPLES OF DIGITAL PACKS

Private user's pack
270 digital textbooks
4.55 € / month

Upper secondary student's pack
41 digital textbooks
3.35 € / month

Literature for high school
5 digital textbooks
1.50 € / month

	1.	2.	3.	4.	5.	6.	7.	8.	9.	G	Together
history					2	2	2	2	3	7	18
biology						4		3	2	6	15
Estonian	5	3	3	3	3	3	4	4	3	1	31
physics							5	5			10
geography							4	3	3	6	16
human and social studies		1	1	2	3	3	2	2	2		14
humanities		3	4	1	5	4	3	4	2		24
chemistry							1	6	5	1	10
physical education					1	1	1				1
literature	1				3	3	3	3	3	5	21
art education	2	2	2	1							4
natural and human sciences		2	2								4
biology	5	3	4	4	4	4	3				27
economics and entrepreneurship										1	1
mathematics	4	3	3	4	4	3	3	1	1	7	33
music education	3	3	3	2	2	2	2	2	2	3	24
technology education					2	3	3	3	3		6
job training	2	2	2	2	2	2					6
Russian	3	2	2	2	1	2	3	1	1	1	18
foreign language teaching						1	1	1	1		4
social studies					2	3	5	1	2	4	18
Together	23	19	19	19	27	30	37	38	36	41	270

	7.	8.	9.	G	Together
history				7	7
biology				6	6
Estonian				1	1
geography				6	6
chemistry	1	1	1	1	1
literature				5	5
economics and entrepreneurship				1	1
mathematics				7	7
music education				3	3
Russian				1	1
social studies				3	3
Together	1	1	1	41	41

	G	Together
literature	5	5
Together	5	5

Estonia

The impact of the lockdown

40K students/**month**	90K students/**week**
4K teachers/**month**	6.6K teachers/**week**
0.2M pageviews/**day**	2.2M pageviews/**day**

Regular users: students   teachers

Grades 1–3	42%	
Grades 4–6	72%	66%
Grades 7–9	80%	

February 2020   March 2020   April 2020
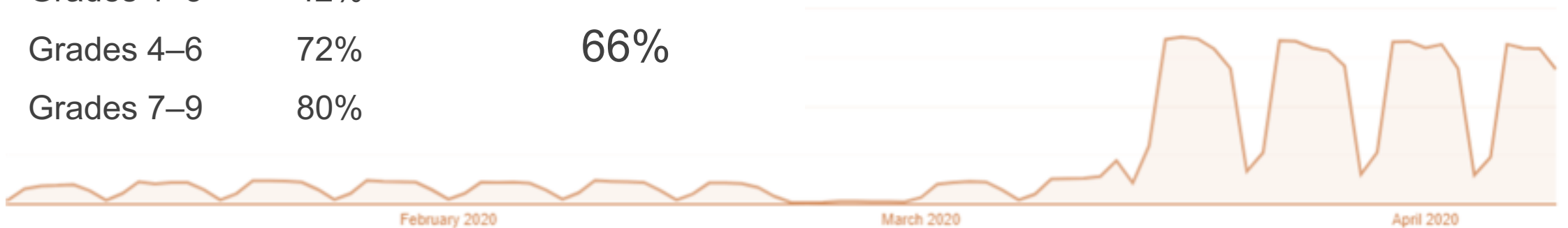
Estonia

USERS

- one entry point
- unified user experience
- unified learning analytics
- digital content fully compliant with printed content

PUBLISHERS

- focus on content instead of technology
- lower development costs

STATE

- clear and efficient system
- low costs & simple financing
- reduced training needs
- keeping the publishing market alive and highly competitive
- simple insight into analytics
- **readiness for distance teaching/learning**

BC: use constantly growing
DC: 2x growth of users,
10x growth of regular use
AC: use expected to remain high and keep growing

Lithuania

THE SITUATION BY 2019:

- student's printed textbook basket: 19–20 €/year
- school funds full of very old textbooks – actual needs greatly exceed the basket value
- textbook basket can be used for digital materials (only theoretically)
- very slowly emerging digital market

THE MINISTRY'S REACTION AFTER THE LOCKDOWN EXPERIENCE:

- additional student's digital basket 25 € for two years = **12.5 €** per year / student
- total two-year value for digital basket of 8 M€

Lithuania

eduka KLASĖ

www.klase.eduka.lt

OUTCOMES

- a few textbook publishers join the most popular digital textbook platform: Eduka Klasė (a few other publishers decide to remain outside the system)

- the platform has turned into a "Netflix for e-textbooks"

- over 300 e-textbooks (mostly pdf-based) and related banks of interactive exercises

- Learning Management System

BC: low but growing use
DC: 10x growth
AC: use expected to remain at
**   the increased level and keep growing**
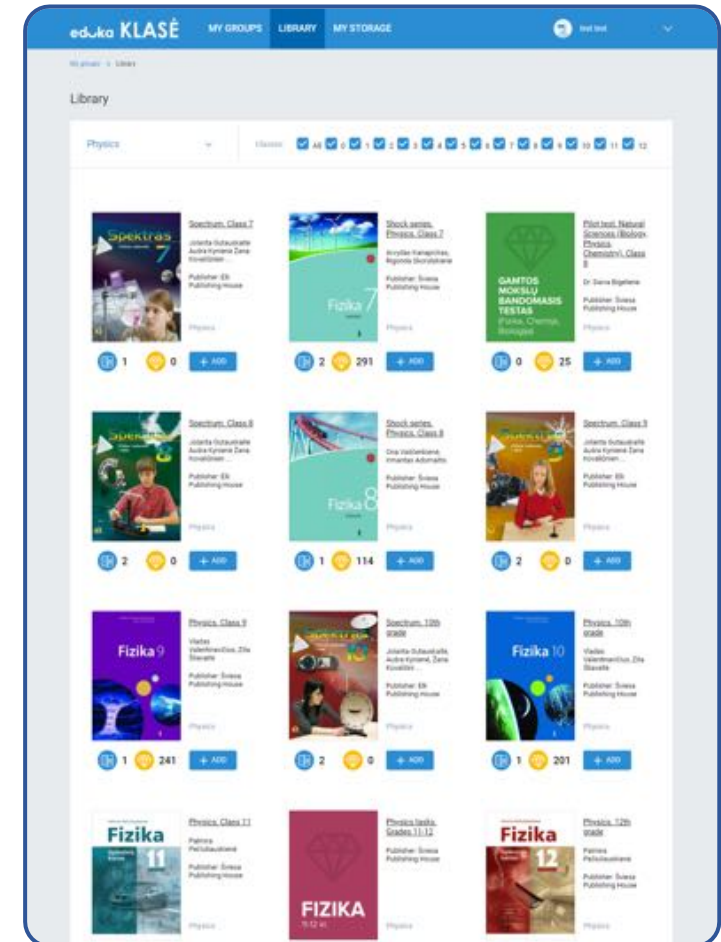
Achieving Digital Maturity

GENERATING DIGITAL USERS

HARDWARE

PLATFORM(S)
SIS, LMS,
COMMUNICATION
PLATFORMS …

TEACHER TRAINING

DIGITAL LEARNING CONTENT
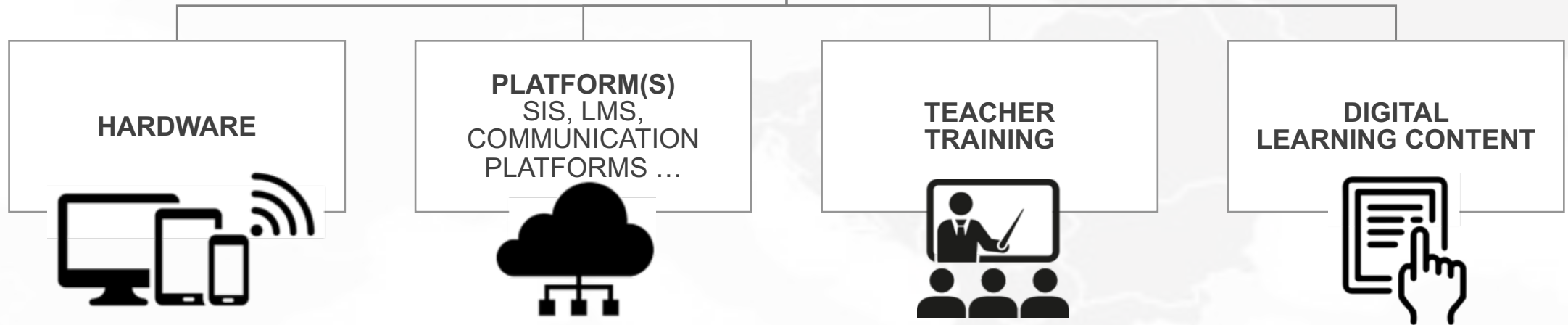
SO WHAT WORKS?

Generating digital users

**INFRASTRUCTURE, PLATFORM(S)
AND TEACHER TRAINING**

- holistic approach: simultaneous introduction of hardware, initial training and digital content

- assigning hardware to individual teacher

- one platform or more integrated platforms used at individual school
  = SSO and unified learning experience

- piloting in a selected group of more skilled teachers and quick extension,
  thanks to knowledge transfer

- monitoring and accelerating the progress through network of digital mentors
  and early adopters (pioneer digital teachers)

Generating digital users

HIGH-QUALITY DIGITAL LEARNING CONTENT

- full **correlation between printed and digital textbooks**, especially during transition

- annual access financed by the ministry, based on **actual use**
  or pre-defined **digital student/teacher basket**

- **at appropriate value, the content providers:**
  - **compete in quality and invest in the development of digital content**
  - **produce, obtain and localise high-quality content from 3rd-party providers (royalty fees)**
  - **regularly update and optimize content**
  - **offer additional free teacher training**
  - **promote regular use of digital solutions**

OER? Governmental investments in OER in the region did not bring ANY of the above benefits. In the long-run, OER appeared dramatically more expensive per actual user and far less efficient.

THANK YOU!

Rok Kvaternik
r@rokus.com