

ICTP Efforts to Support S Developing Countries

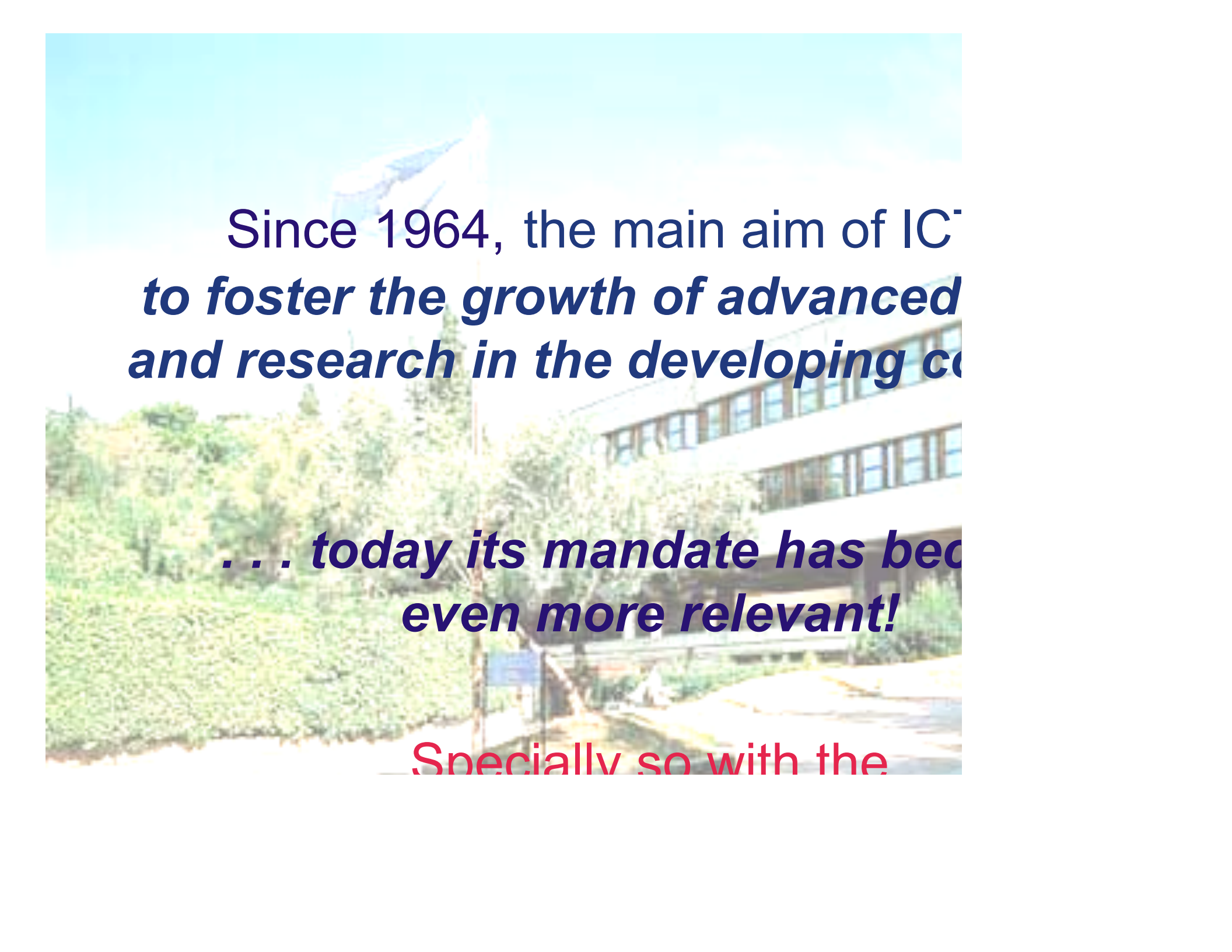
Canessa

ICTP

Abdus Salam International Centre for Theoretical Physics

was founded in 1964, by the
Nobel Laureate Abdus Salam
receives the majority of its
funding from the Italian
Government and is administered
by the United Nations
Educational, Scientific and
Cultural Organization (UNESCO)
and the International Atomic



The background of the slide is a photograph of a modern, multi-story building with a grid of windows, partially obscured by lush green trees and a clear blue sky. The text is overlaid on this image.

Since 1964, the main aim of IC⁺
*to foster the growth of advanced
and research in the developing co*

*. . . today its mandate has become
even more relevant!*

Specially so with the

ICTP mandate

ICTP has the mandate

to foster the growth of
advanced research in physics and
mathematics, especially among
**researchers from developing
countries**

to create an international forum
for the exchange of scientific
information through courses,
workshops and seminars

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TP facilities

, in its campus

comodates on average 400
artists each day

uses one of the largest
aries in the field of physics and
hematics in Europe, with more
n 64000 books, 400 printed
nals and more than 3500 e-
nals



CTP statistics

CTP hosts

more than 4,000 scientists each
year - 6,000 in 2006

more than 40 training activities per
year

more than **100,000** visits since
1994

60% from developing
countries



Digital divide

Our experience, the growth of the Internet in the Un
developing countries has to face these problems:

limited bandwidth of available telecommunication
congestion and making access exceedingly slow,
*limits of usability – **Lack of infrastructure; connectivi***

insufficient computer literacy of the academic con
sequent insufficient understanding of the potential
tool for spreading information (contrasted with its us
information generated elsewhere)

aim to promote collaboration, enhance knowledge,

T at ICTP

is a basic infrastructure
necessary for the economic and
development of a country but
for its **scientific and
technological progress.**

**academic community is a
fundamental starting point for
these efforts to permeate to the
heart of society**

the underlying problem is the



Activities on ICT

Technological activities carried out
CTP

The “**C**”, communications, is
covered by the Aeronomy and
diopropagation Laboratory
(PL) which works on wireless
working

The “**I**”, information, is covered
the Science Dissemination
t (SDU) which works on
electronic scientific contents



Science Dissemination Unit



The SDU has been created with the br
communicating scientific contents a
to more people than are able to visit
to the public in general throughout t
any electronic media type.

DU is a concrete example of helping to bridge the digi
vide in developing countries in terms of applying low-
source information and communication technologies (IC
ssemination, support and internationalization of scien

... ..

Workshops in Trieste

lly:

to 3 weeks

more than 300 applications: 40 selected

on lectures on Networking, Band-
width Optimization, Wireless
Technologies, Antenna Building, Wireless
Security, Web – Proxy/Caching Servers...

source based technologies by
lecturers and experts from Europe and



- *more than 250 Applications received*

Specially competitive selection according to:

Technical questionnaire filled with Application/Reference

Working/coming from Developing Countries/Research

Apply knowledge acquired upon return home



Web Enabling Technologies and Strategy
7 - 12 November 2005



Using Open Access for Science Dissemination

workshop is meant to be very practical with hands-on demonstration on the technical setup needed, or maintenance of OAA and OAJs. Tentative topics include:

Open knowledge initiatives; open access to scientific journals; scholarly and scientific collaborations, communication and publishing; policy to promote open access besides incentives; Dspace and ePrints software for the development of Open Access Archives; Metadata concept; Open Archives and their preservation and backups; Open Journal Systems (OJS)

On-site training

Training has also been carried out in:

Romania,

India, Bangladesh,

Kenya, Cameroon, Nigeria,

China, Ghana, Senegal, Sudan,

Uganda,

Venezuela



Book 1

Wireless Networking in the Developing World”

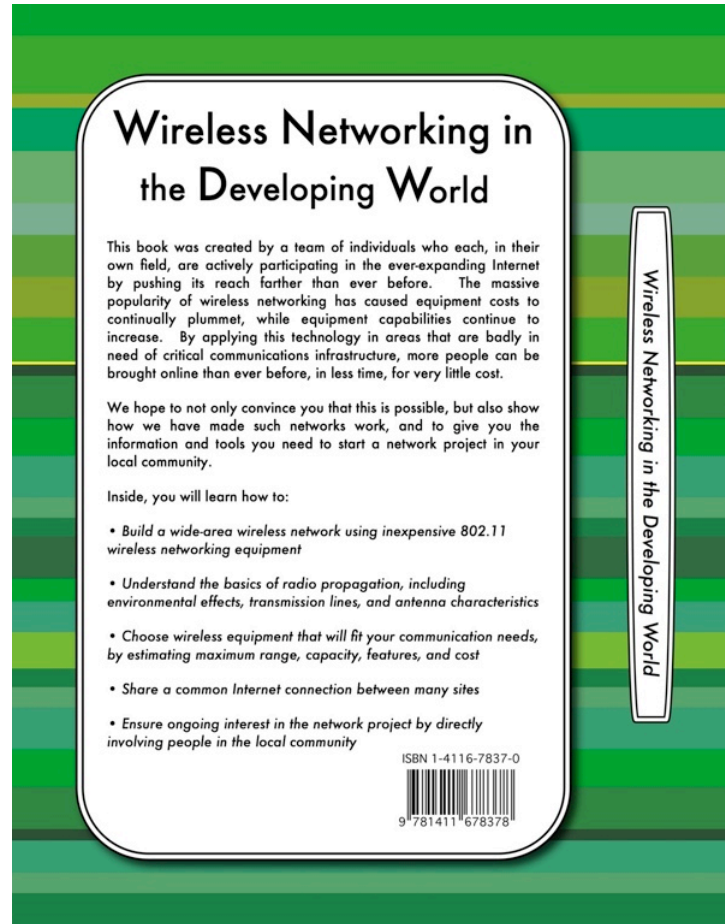
in less than 3 months

“Sprint” methodology

the Alike Commercial (you print it and sell it keeping a profit)

more than 100 downloads a day!

available also in Spanish, French, and Chinese



Book II

Bandwidth Management Optimization”

in 4 months

“Sprint” methodology

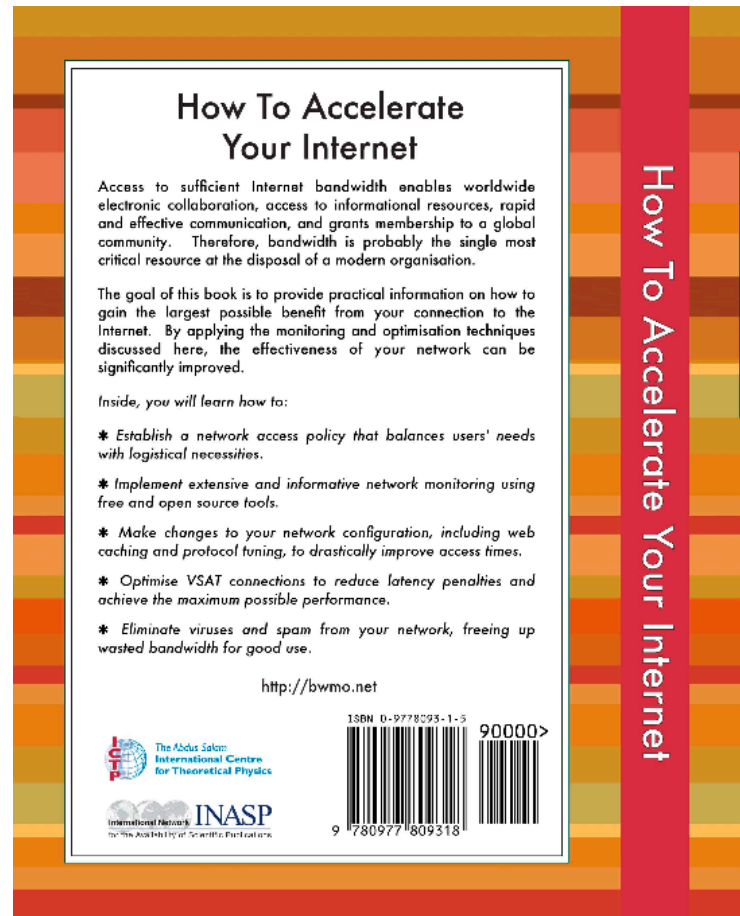
Alike Commercial

~160 copies per

and had ~2051

downloads per month

bwmo.net



DS

electronic Journals Delivery Service (eJDS)

Facilitate the access to current scientific literature free of cost

Contribute individual scientific articles by email **to scientists** in Developing countries with low bandwidth access to internet

Compliance to agreements with the publishers



ClustrMaps for <http://>



African Physical Review

Open Access journal on
Physics, publishes special issues
dedicated to a rapidly developing
field of physics and proceedings of
conferences held in Africa.

International Board of Editors: Allotey, F.K.A. (Ghana);
Abdelhak, M. (Sudan/UK); Benfdila, A. (Algeria/South Africa);
Bjork, A. (Italy/Denmark); Chetouani, L. (Algeria); Hsia, Y.F.
(USA); Koca, M. (Turkey/Oman); Kofane, T.C. (Cameroon);
Korotkiy, V. (Russian Federation/Italy); Krishan, V. (India);
L. D. Landau, Sir A. (Nobel Laureate) (USA/UK), Maaza, M.
(USA/South Africa); Mahajan, S.M. (India/USA); March,
S. (USA); Mshelia, E.D. (Nigeria); Mtingwa, S. (USA); Nagib,
M. (USA/Egypt); Osman, M. (USA); Panza, G. (Italy);
Raza, M. (Pakistan); Said, M. (Tunisia); Scandolo, S. (Italy),
Srinivasan, K.R. (USA/Italy); Unak, P. (Turkey); Willander,



PingER Africa

R project, carried out in
collaboration with SLAC in Stanford
to measure Internet End-to-end Performance
(including IEPM)

analyzes the (almost) **Real-
time connectivity data for Africa**
(with more than 60 African institutions)

Comparison with other regions: To
understand expectations for QoS, to
understand where upgrades are



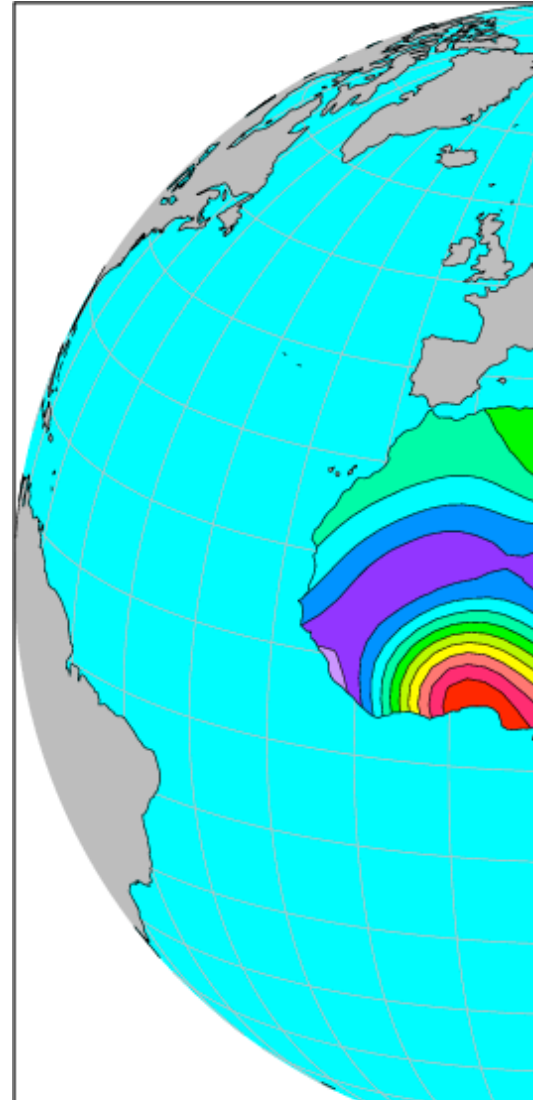
gER work in progress

our map of Africa with
activity values given by
ER (“Internet Weather Forcast”)

e.g.: pyNGL

[/www.pyngl.ucar.edu/Function/otid.shtml](http://www.pyngl.ucar.edu/Function/otid.shtml)

Associate PinGER results to other
economic indexes ; relate e.g. to
DAI (Digital Access Index) and



gER proposal

board, embedded box
ing Linux (in just 66 x 72 mm)

power, runs perl, php, etc

(~150 Euro), easy to set
program

stall in developing
tries to measure PinGE
activity inside a country
de a continent




Virtual lectures – Maths, Phys

o/Video streaming
archive of Scientific
lectures at ICTP

ording lectures is very
nsive (200-300\$ per
)

hronized video and
s is needed

shop on Rich-Media



Science Dissemination
video streaming and archiving of

Video Streaming with Slides – Low Bandwidth
Click on the slide to enlarge

NEIC Sumatra-Andaman Islands Earthquake Response: Timeline

- 00:59 (GMT) Earthquake occurs
- 01:10 Pacific Tsunami Warning Center (PTWC) issues message to other observatories based on M8.0
- 01:14 PTWC issues warning of no threat in Pacific
- 01:15 Initial AUTOMATIC NEIC solution mb 6.2
- 01:24 Final AUTOMATIC NEIC solution mb 6.3
- 02:04 PTWC issues 2nd warning, based on M8.5, of possible tsunami in Indian ocean
- 02:15 REVIEWED solution written Ms 8.5
- 07:11 Magnitude revised to Mw 8.9 (Harvard CMT)
- 21:35 Magnitude revised to Mw 9.0 (Harvard CMT)

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approach

Have a Digital Lectures
system that has:

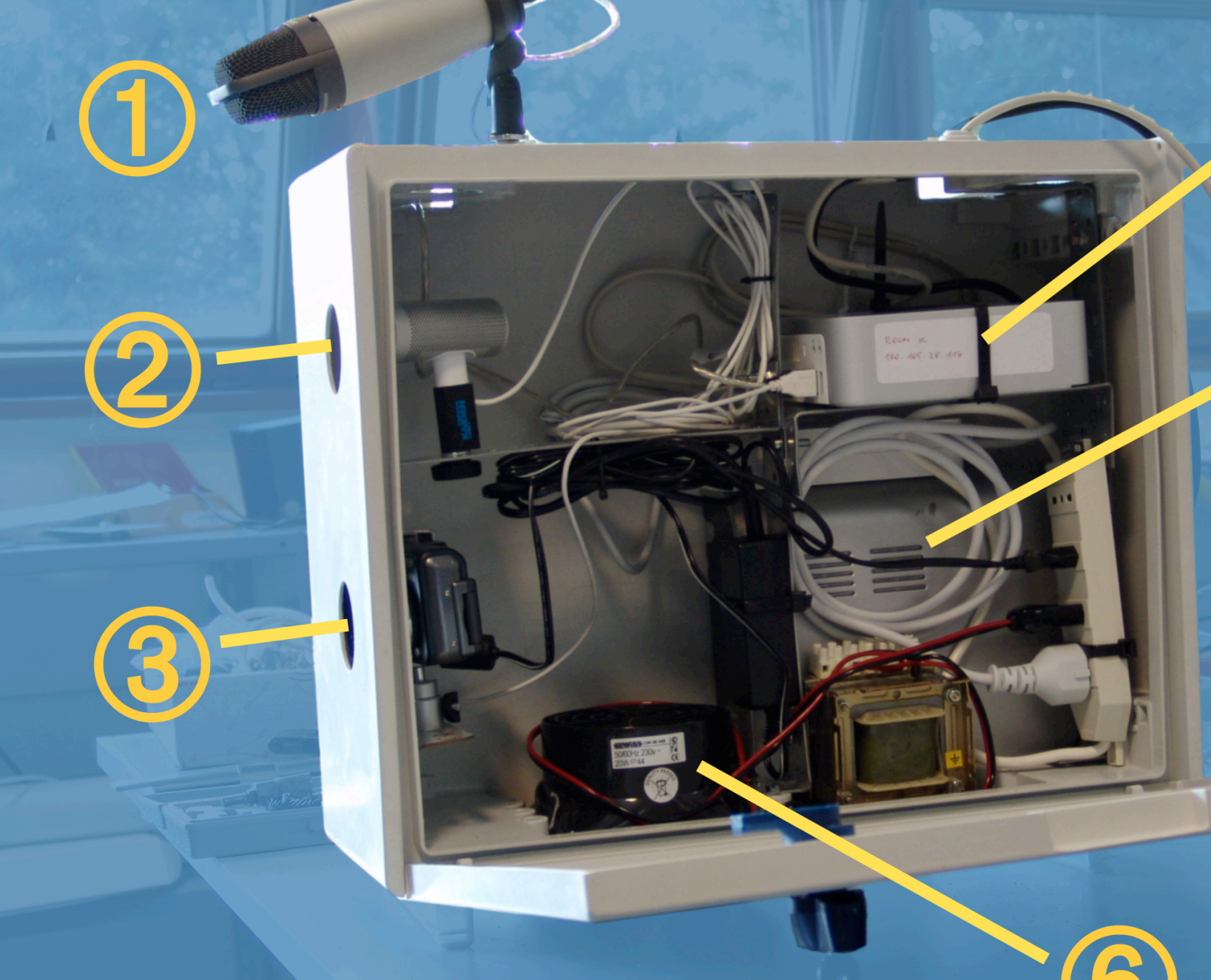
minimum human intervention

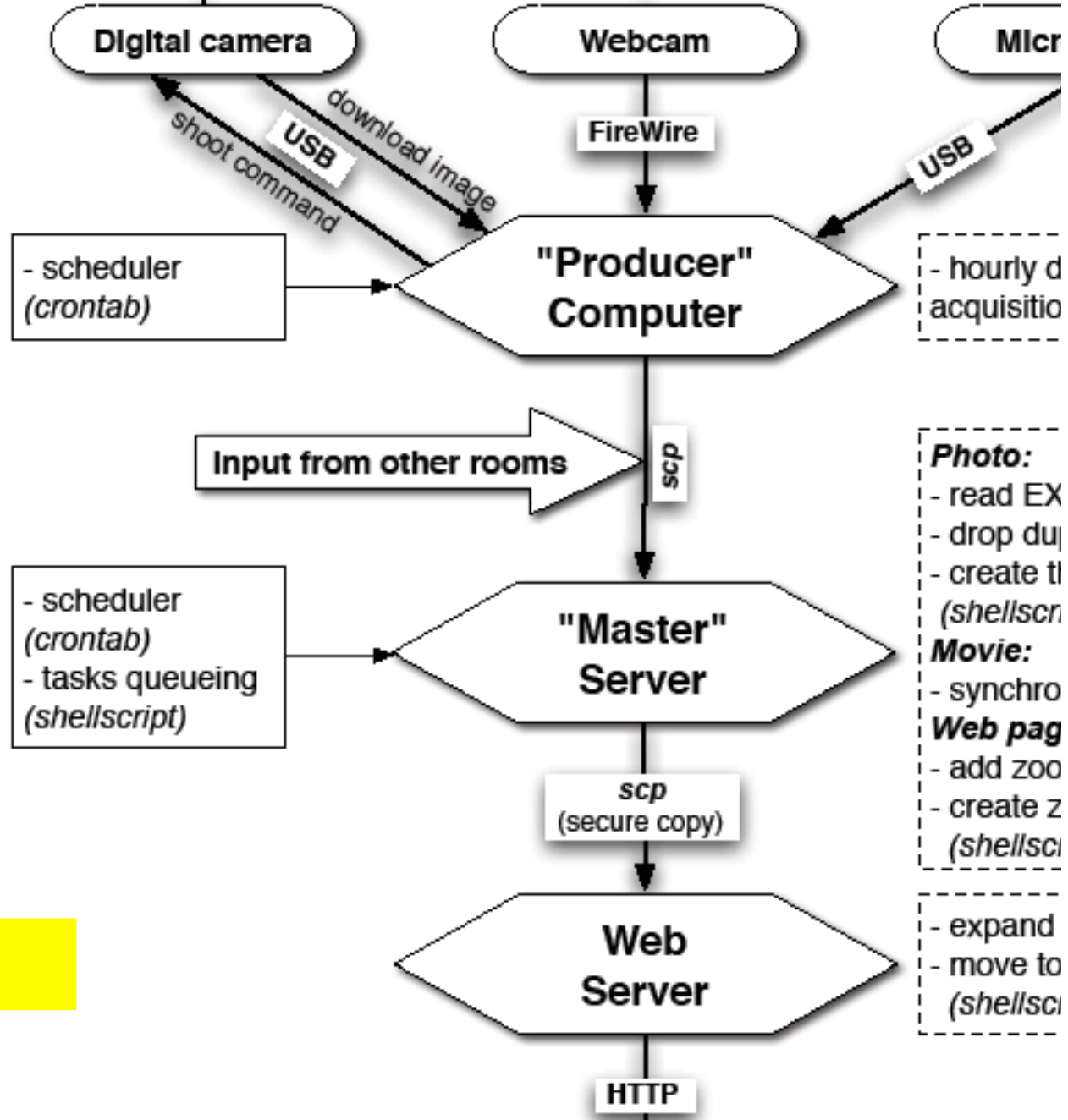
non-invasive

low cost of equipment

continuous service with minimal
maintenance (massive
installations along campus)

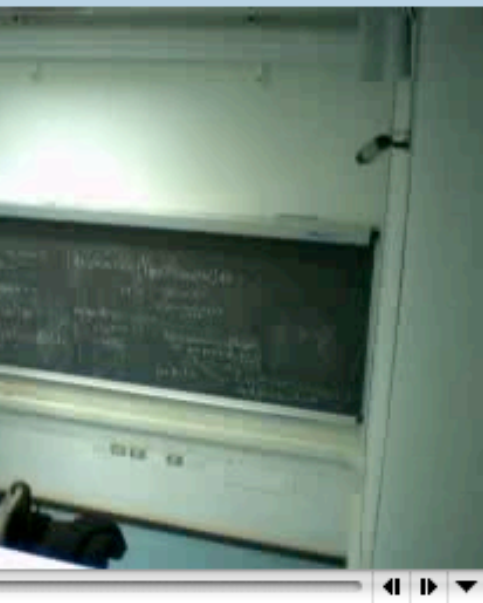




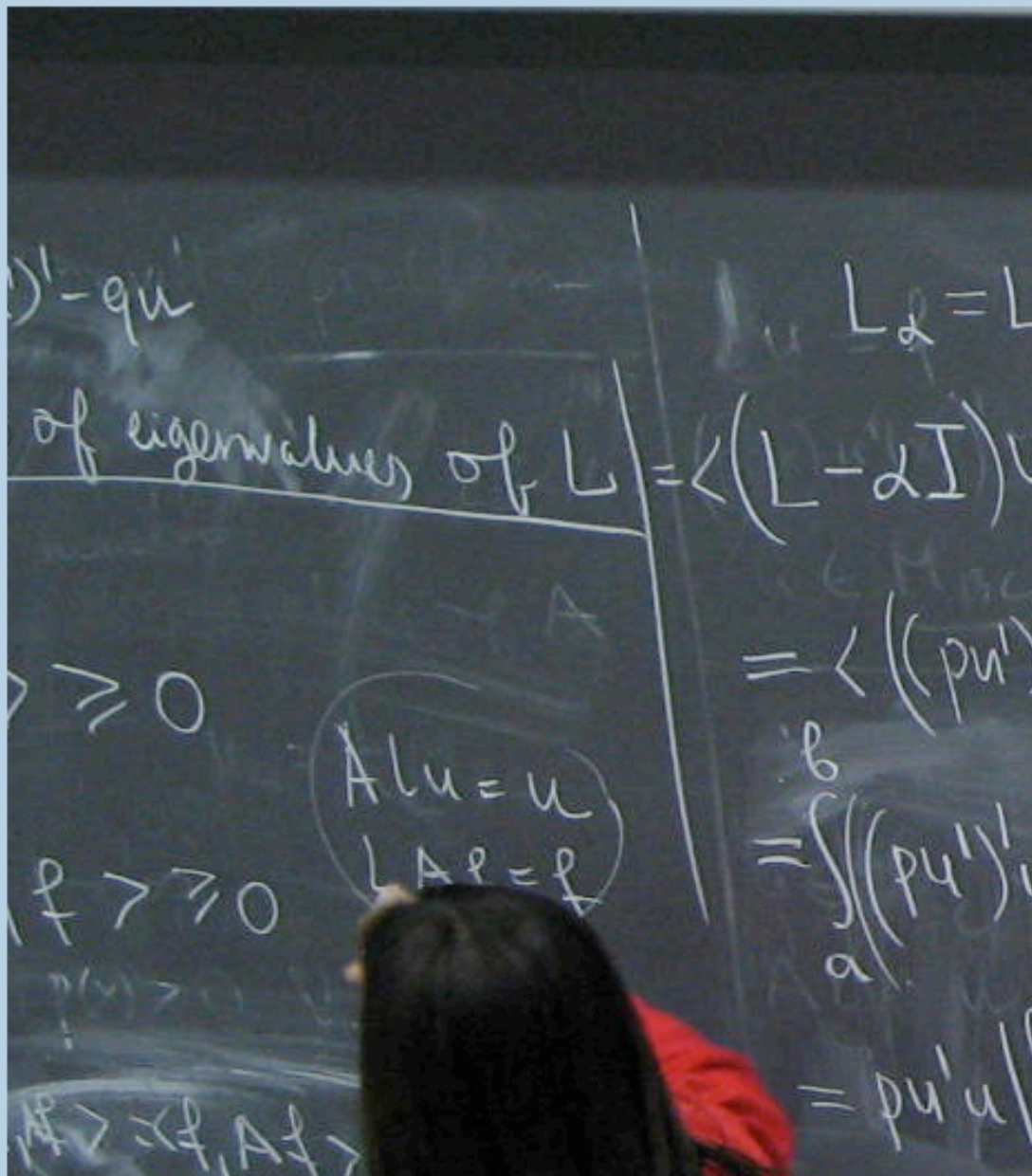


EyA System

ording with synchronized slides



10:00-10:59



 *Thank you!*