



# Workshop on CWC Obligations



September 2022

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Training on CWC Obligations for Industry  
SECO and SPIEZ LABORATORY



# Agenda

09:30	Welcome: Spiez Laboratory and SECO	Dr Beat Schmidt Michelle Laug
~09:35	<b>Presentations on CWC and Arms Control; Legal aspects of CWC</b>	<b>TE-07</b>
~11:00	<b>Import – Export: Transfer of Scheduled Chemicals</b>	
11:30	<i>Lunch (group photo)</i>	<i>Canteen NBC-EOD- Centre</i>
12:30	<b>Import – Export (practical examples)</b>	<b>TE-07</b>
~13:15	<b>Industry Declarations S2, S3 and OCPFs Incl. practical examples (declarations) + OPCW inspections</b>	<b>TE-07</b>
~15:15	Feedback and Closure	15:43 train leaves for Spiez



# Goals of the Day



- Meet & Greet
- CWC Treaty – Awareness raising
- CHE Legal Basis (SECO)
- OPCW Art VI routine Inspections and annual declarations
- Practical exercise





# NBC Centre Spiez



Training on CWC Obligations for Industry  
SECO and SPIEZ LABORATORY



 **Spiez Laboratory/NBC-EOD Centre Spiez**



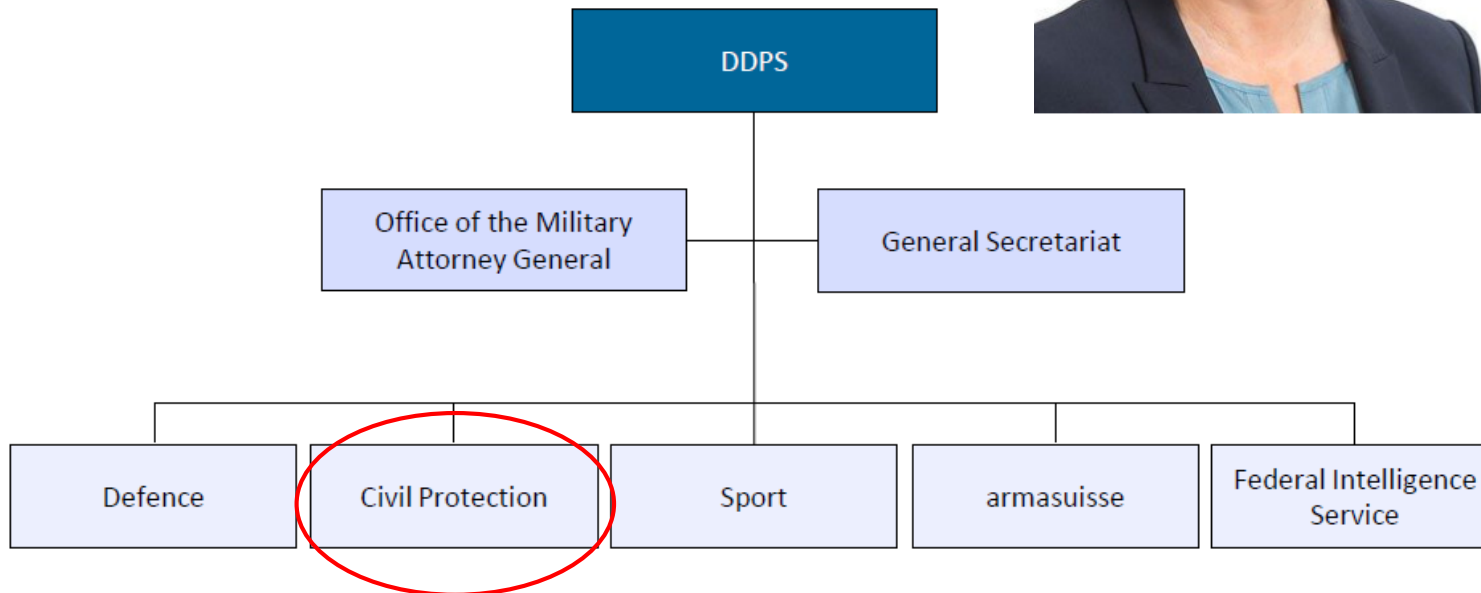
**The NBC-EOD Centre  
Of Competence**

**SPIEZ LABORATORY**



# Federal Department of Defence Civil Protection and Sport (DDPS)

Departementschefin VBS, Viola Amherd





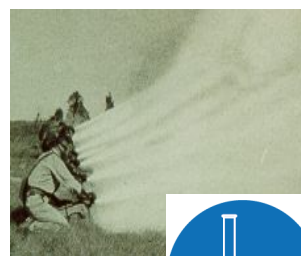


Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,  
Education and Research EAER  
**State Secretariat for Economic Affairs SECO**

# Spiez Laboratory: The Swiss Institute for NBC- Protection

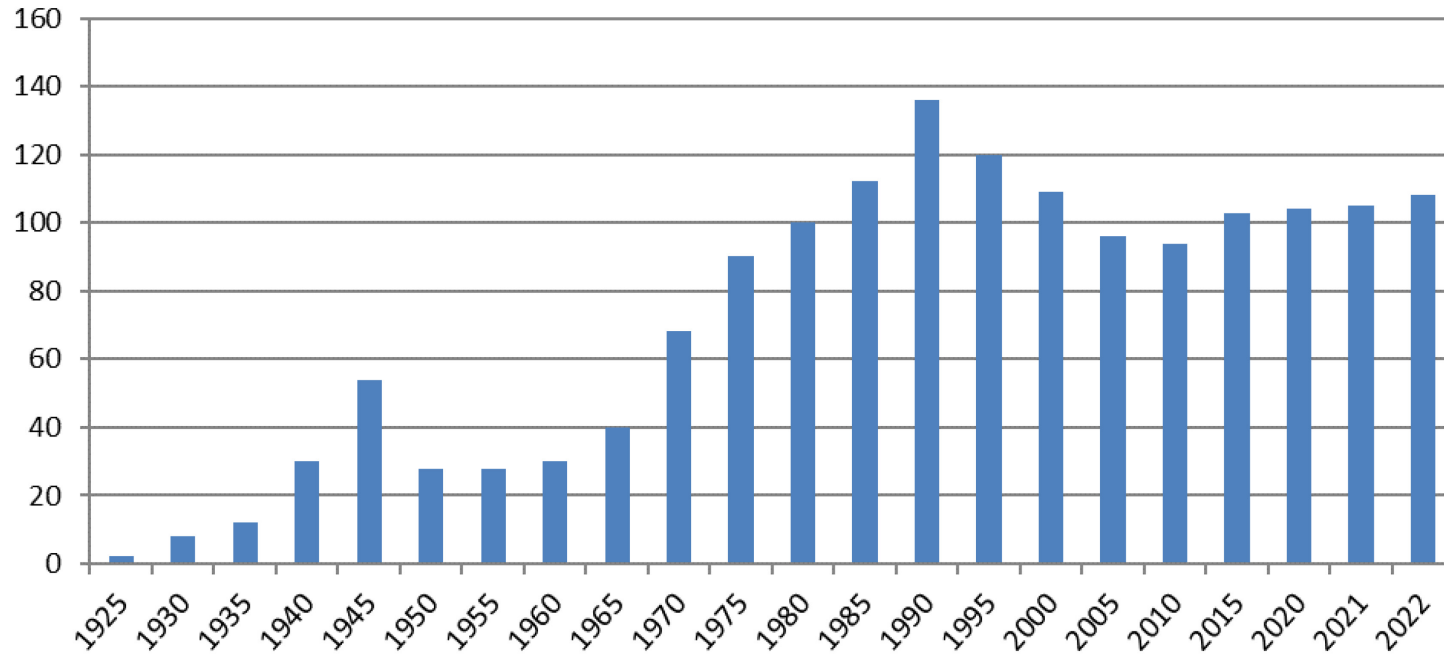


Provide international organizations, national authorities and the Swiss population with services in the fields of arms control, protective measures and emergency management





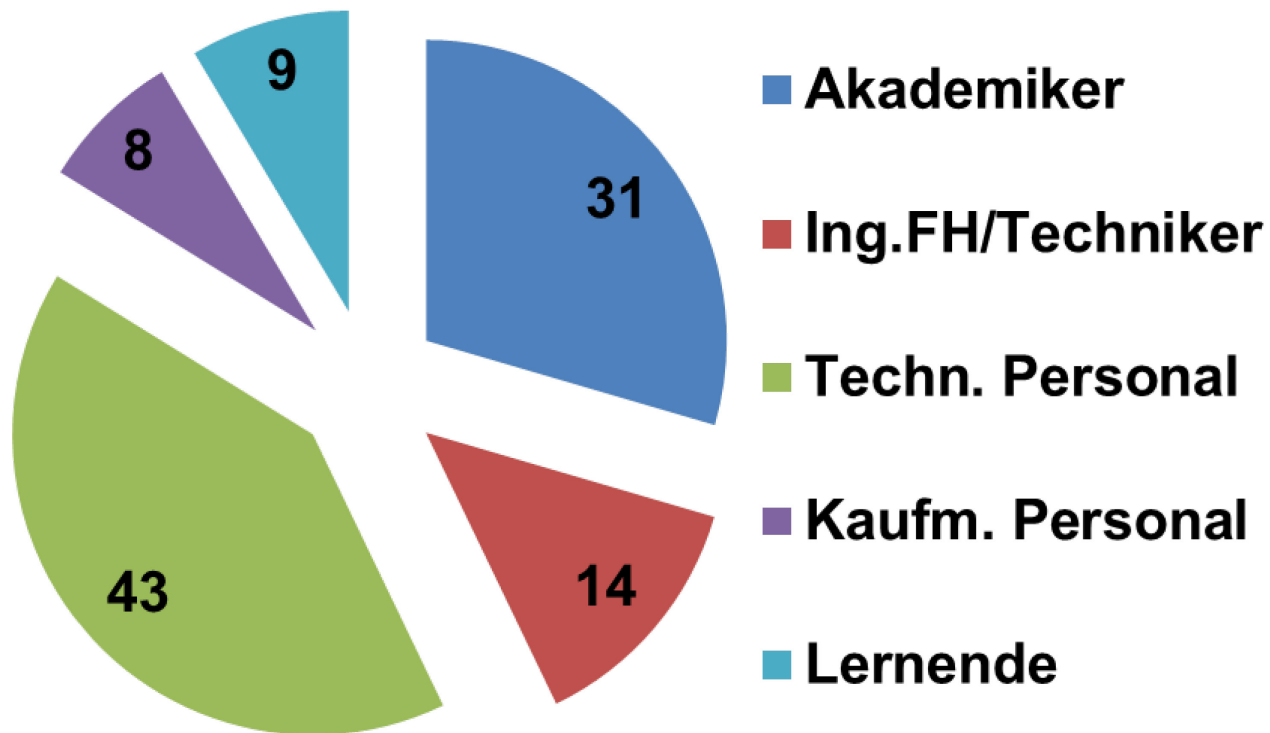
# Development of Spiez Laboratory since 1925 based on the number of employees





# The Spiez Laboratory in figures (end 2021)

Number of Staff: ~105





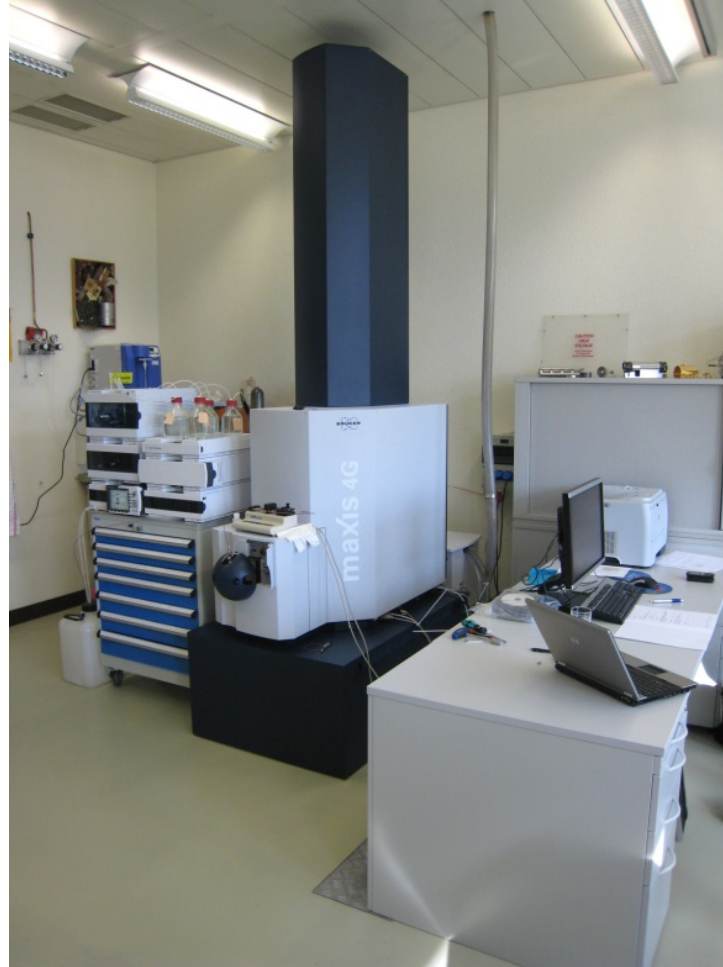
# Designated Laboratory of the Organisation for the Prohibition of Chemical Weapons



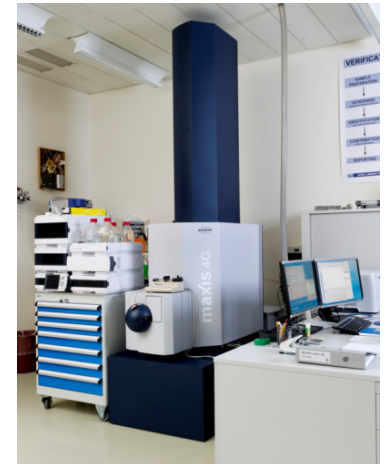
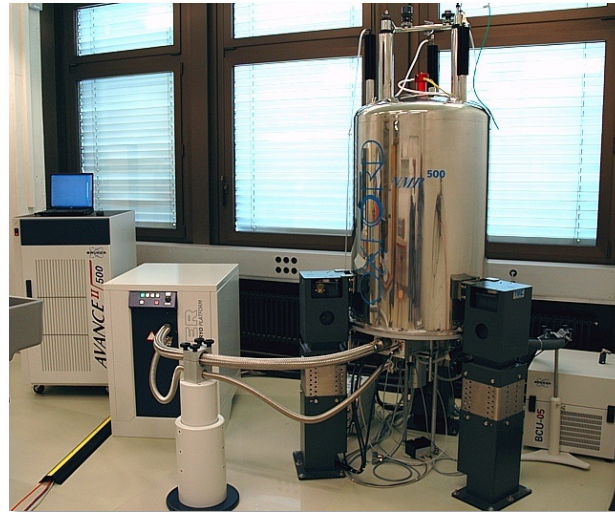
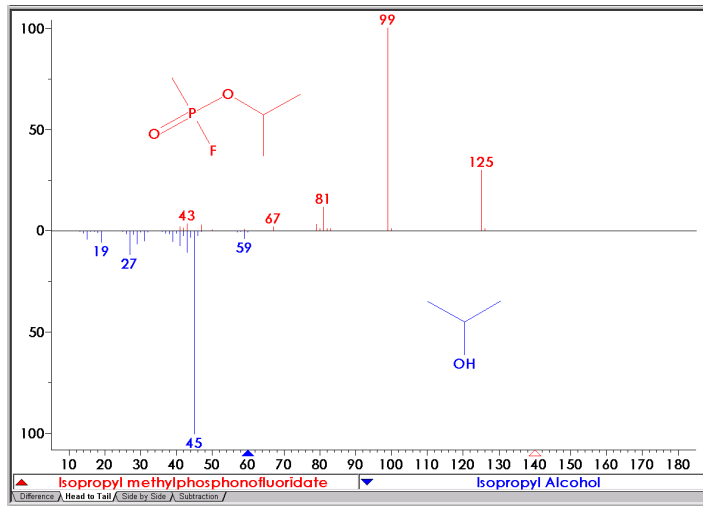
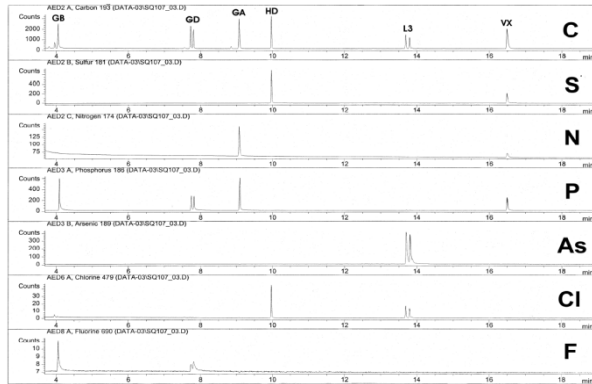




# OPCW Designated Laboratory Group Organic Analytics



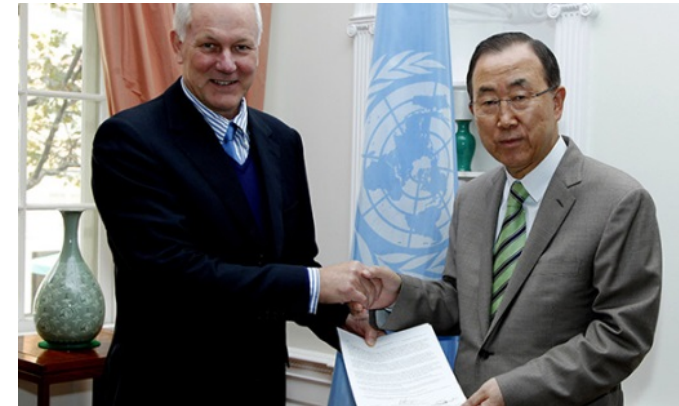
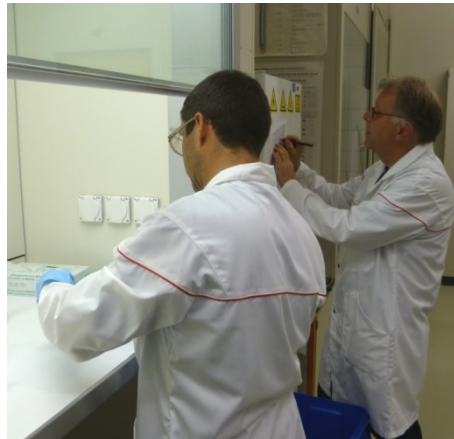
# Sample Analytics and Evaluation



Training on CWC Obligations for Industry  
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# Support of International Missions SYR-Ghouta 2013 – Sarin Attack

- UN Mission with Ake Sellström  
OPCW Designated Laboratory received samples  
(OPCW Technical Arrangement with LS in place)





# Synthesis of chemical warfare agents

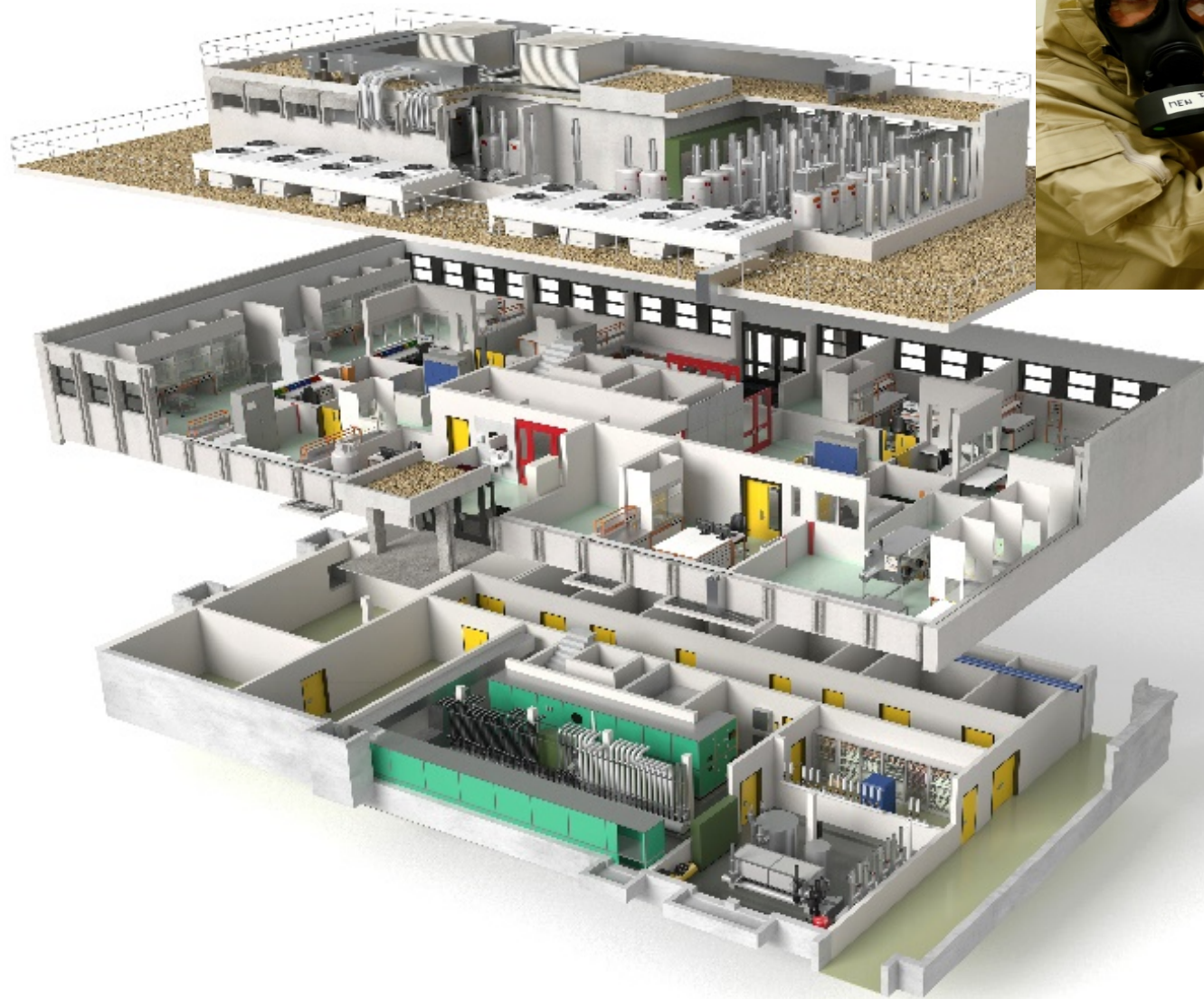






# Chemical Safety Lab

Schedule 1 Facility for Protective Purposes





# Biosafety Laboratory





# Biosafety Laboratory (up to level 4)



# Reference laboratory for the FOPH



# Collaborating Centre IAEA



## Joint research

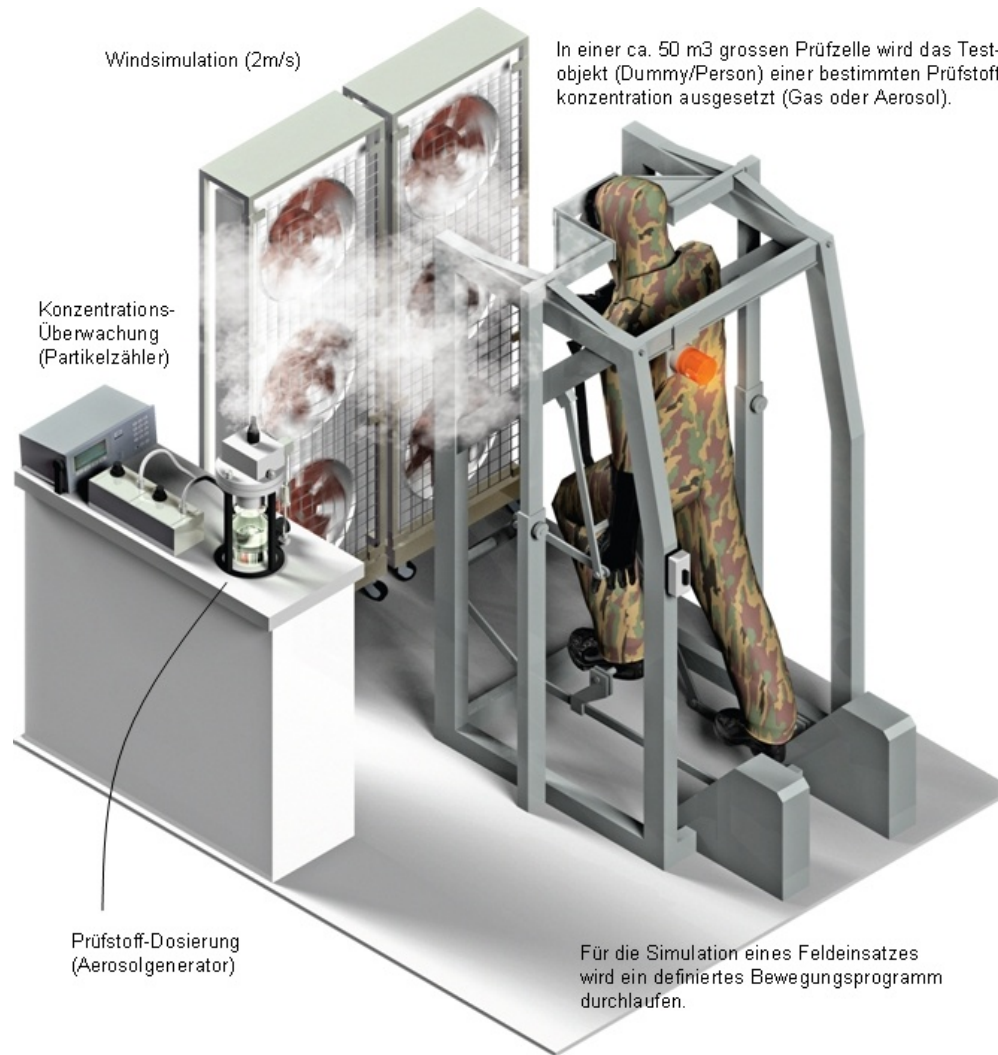
At the Spiez Laboratory, an IAEA Collaborating Centre in the study of radionuclides in the environment, Mr Grossi and Laboratory Director Marc Cadisch reviewed joint initiatives in marine and terrestrial environmental research and discussed potential collaboration in [nuclear forensics](#) and in research into [zoonotic diseases](#). Mr Grossi thanked institute staff for offering to analyse samples collected following last month's blast at the Port of Beirut, collected at a recent [IAEA Assistance Mission to Lebanon](#).



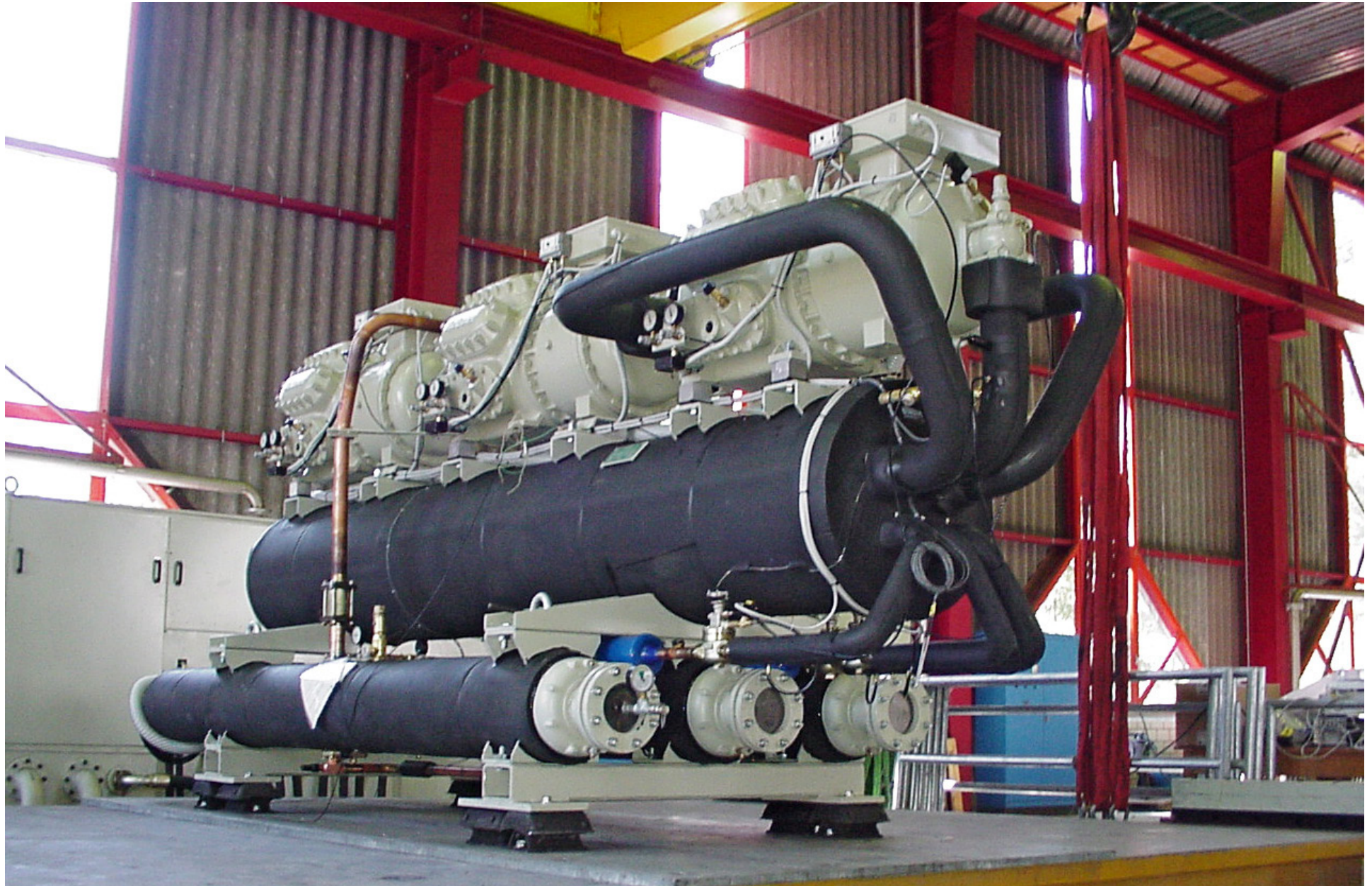




# Individual Protection



# Collective Protection – nuclear earth tremor





# DDPS Emergency Response Team (C-EEVBS)





# DDPS Emergency Response Team (B-EEVBS)





# DDPS Emergency Response Team (N-EEVBS)





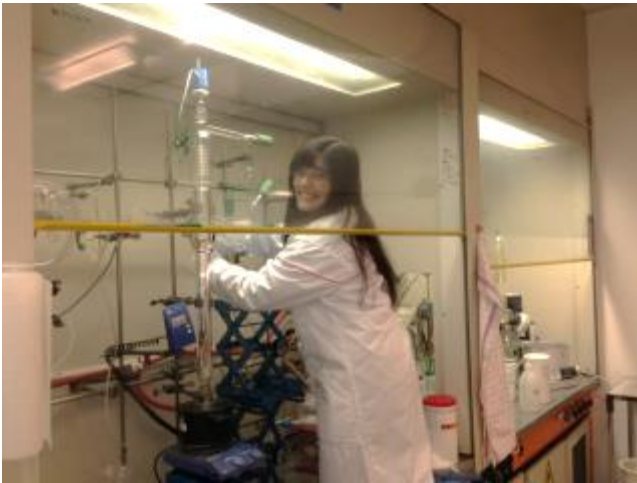


# Internships, Post Docs, PhDs, Master Students,...



## PhDs/PostDoc/Master

- Analytical Chemistry (Uni Freiburg)
- Toxinology (IFIK)
- Bacteriology (SUPSI/Uni Genf)
- Bacteriology (Uni Bern)
- Virology (IFIK)
- Diagnostics (SNF)
- Analytical Chemistry (Uni Laus.)



## Fellowships

- IAEA
- OPCW



# International Organisations



United Nations Organisation (UNO)  
(UNSCOM, UNMOVIC, UNSGM etc.)



Organisation for the Prohibition of Chemical Weapons (OPCW)  
Designated Laboratory



United Nations Environment Programme (UNEP)  
Post-Conflict and Disaster Management Branch  
Impact Assessments und Capacity-Building Missions



International Atomic Energy Agency (IAEA)  
Collaborating Centre  
ALMERA Network, RANET



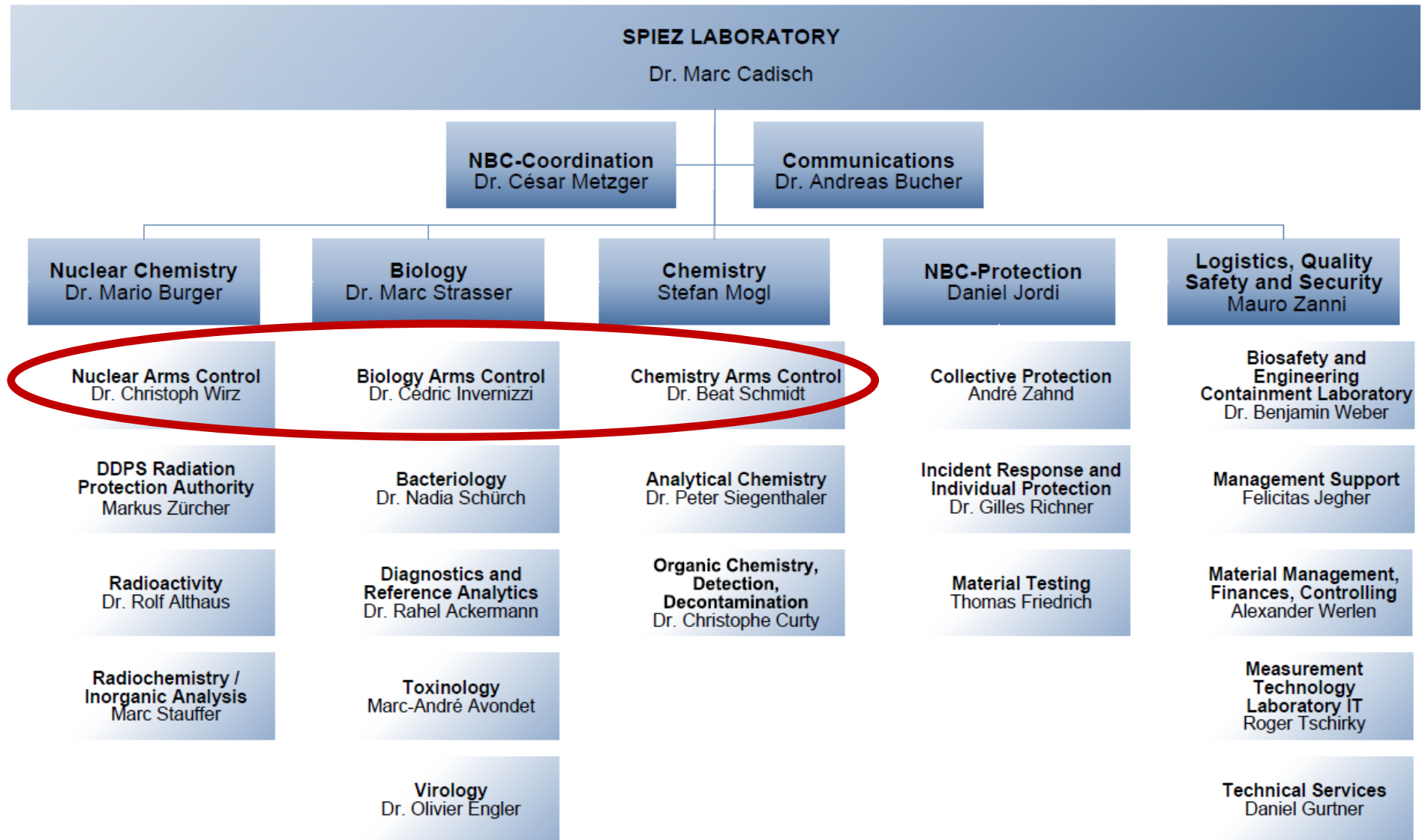
World Health Organization (WHO)  
Global Outbreak Alert and Response Network (GOARN)  
European Mobile Lab (EmLab)  
BioHub



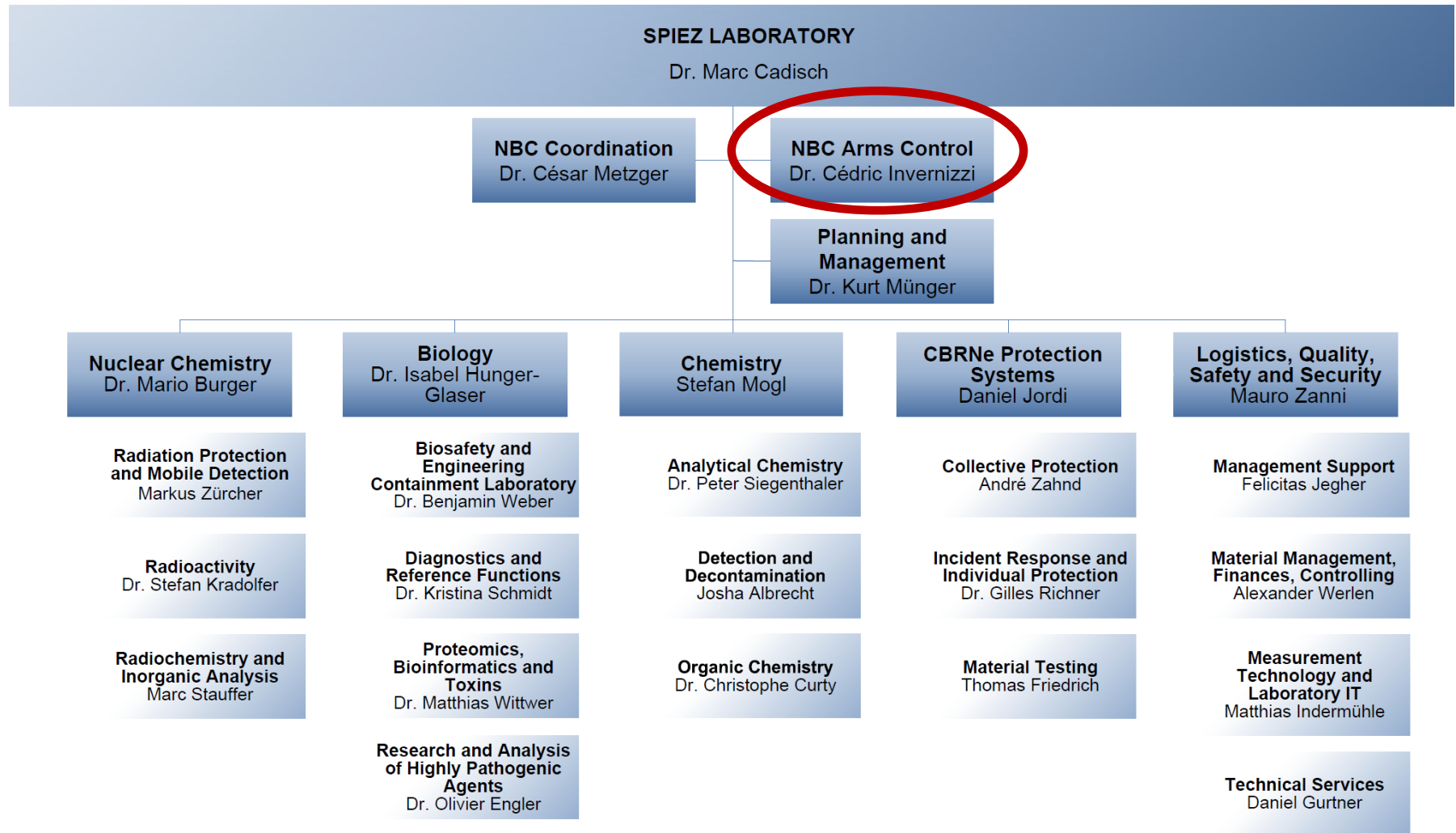
International Committee of the Red Cross  
Trusted Laboratory



# Arms Control **C**hemistry, **B**iology and **R**N



# Organisation Spiez Laboratory, Jan 2020



01.04.2022





# NBC Arms Control Staff Unit

## Prevention

To serve and assist worldwide efforts in the disarmament and non-proliferation of weapons of mass destruction (WMD)



Lead Dr Cédric Invernizzi

- Dr Christophe Wirz; N Arms Control
- Dr Maximilian Brackmann; B Arms Control
- Dr Beat Schmidt; C Arms Control



# Vision of Spiez Laboratory

*«A World Without Weapons of Mass Destruction»*







# Further Information:

<https://www.spiezlab.admin.ch/> or Twitter: [@SpiezLab](https://twitter.com/SpiezLab)

Federal Administration


Homepage Contact DE FR IT EN

Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
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Spiez Laboratory

Searchterm

Laboratory services Arms Control Tasks Publications Spiez Laboratory



**Spiez Laboratory becomes WHO BioHub**

On 24 May 2021, Federal Councillor Alain Berset and WHO Director-General Dr Tedros Adhanom Ghebreyesus signed a cooperation agreement within the framework of the WHO BioHub Initiative. With this agreement, Switzerland will make the Spiez Biosafety Laboratory available to the WHO as a repository for SARS-CoV-2 viruses or other pathogens with epidemic or pandemic potential.

[Further informations](#)

Spiez Laboratory Annual Report 2021 WHO BioHub Conferences

## Services



### Arms Control

Spiez Laboratory works in the framework of the implementation and preparation of international disarmament and arms control treaties.



### Accredited laboratories

Spiez Laboratory operates six testing centres that are accredited by the Swiss Accreditation Service (SAS).



### Training

Spiez Laboratory provides vocational training. We offer apprenticeships as chemistry or biology lab technicians to young people living in the region.

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# C-DISARMAMENT AND C-CONTROL CHEMICAL WEAPONS CONVENTION

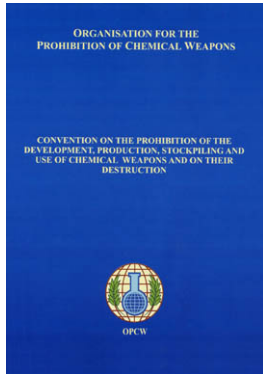






# Chemical Weapons Convention

- A comprehensive prohibition of chemical weapons
- A multilateral and legally binding treaty for State Parties, which prohibits the development, production, acquisition, retention, stockpiling, transfer and use of chemical weapons and it requires each State Party to destroy chemical weapons and chemical weapons production facilities.
- The CWC entered into force April 29, 1997 (Switzerland ratified March 10, 1995)
- The CWC is the first multilateral arms control treaty that incorporates a comprehensive verification system embedded in an organization





# OPCW

## Organization for the Prohibition of Chemical Weapons

Technical Secretariat  
(~450 employees)

OPCW Headquarter is in  
The Hague:

The Organisation verifies the  
implementation of the CWC in  
the States Parties

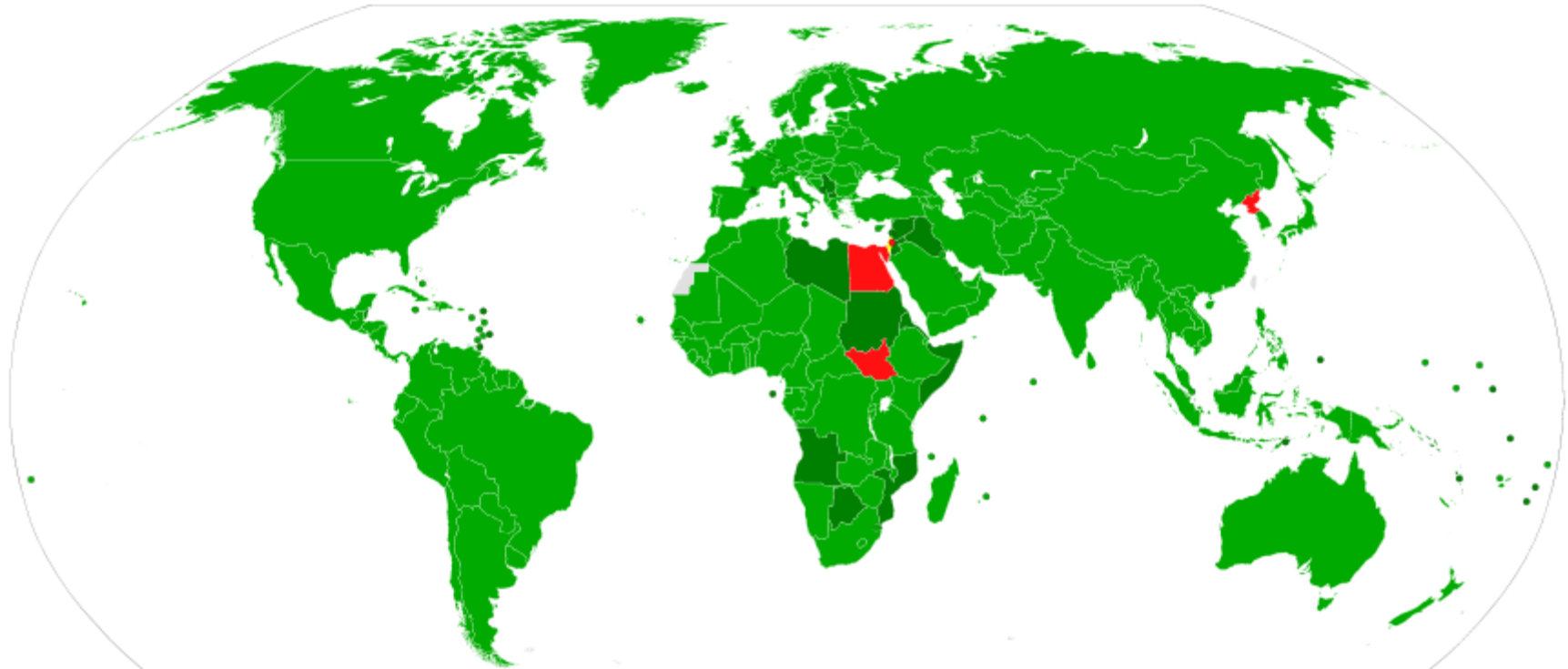






# CWC States Parties

August 2022 [[www.opcw.org](http://www.opcw.org)]



- **green:** 193 States Parties (PSE in Jun 2018)
- **Yellow:** 1 Signatory States: Israel
- **red:** 3 Non-Member States: Egypt, North Korea, South Sudan



# What are Chemical Weapons?







# Chemical Weapons

- Fully developed chemical weapons, the components of such weapons when stored separately (e.g. binary munitions)
- Chemicals used to produce chemical weapons (precursors) and,
- under the “general purpose criterion”, items with a civilian use when **intended** for chemical weapons (dual-use items)
- Munitions and devices **intended** for the delivery of toxic chemicals and equipment directly in connection with those munitions and devices.



155 mm VX Grenade, US



# Pillars of the CWC

## DISARMAMENT

- Destruction of all existing CW and CW Production Facilities (CWPF)

## NON-PROLIFERATION

- Prohibition to assist or encourage anyone to engage in activities prohibited by the CWC or to spread CW

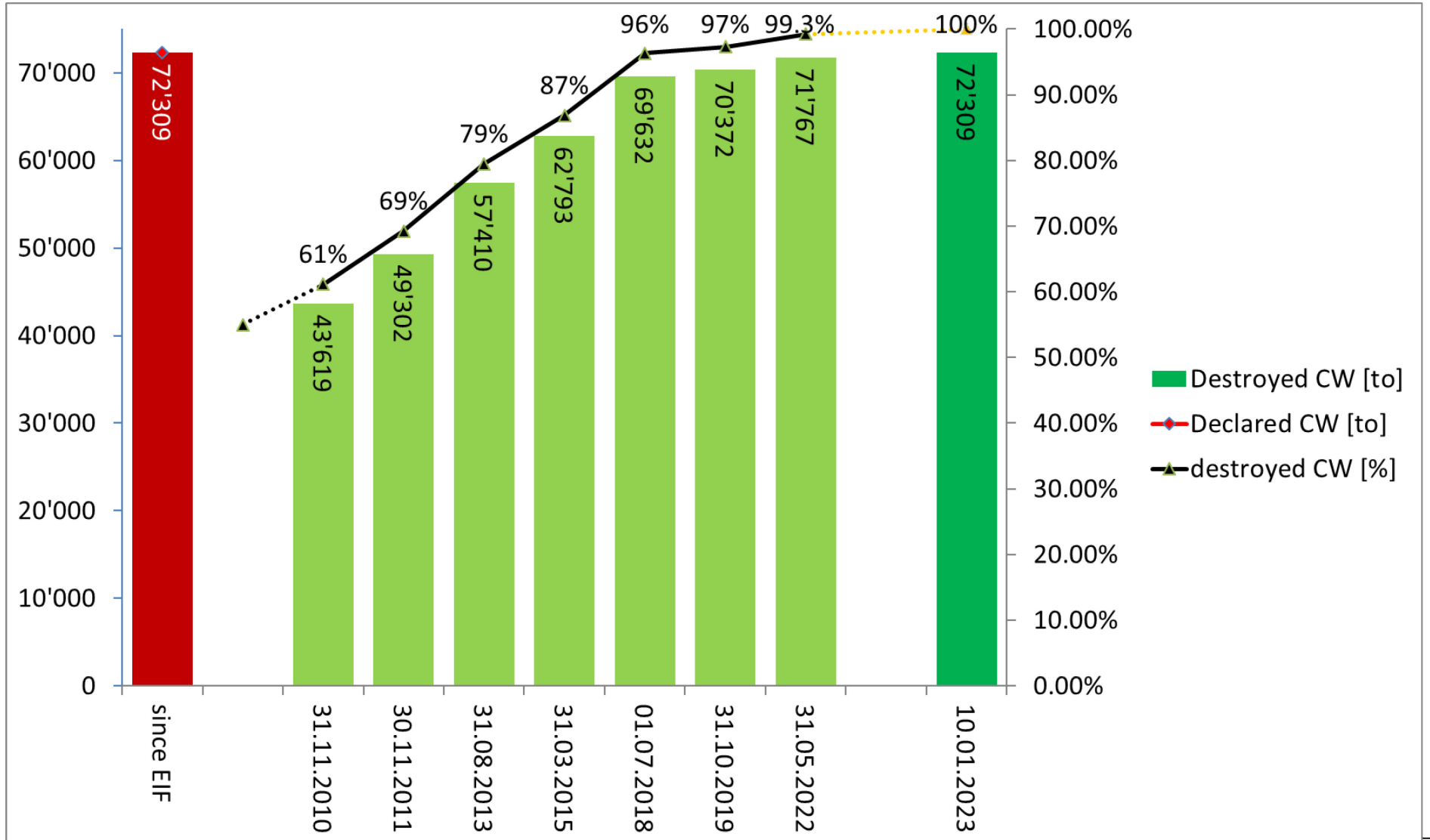
## INTERNATIONAL COOPERATION AND ASSISTANCE

- Promote free trade and peaceful use of chemistry
- Assist and deliver protection equipment, medicine or provide advice if so needed by a SP

# Chemical Weapons Convention



## Destruction of all declared CW and CWPF



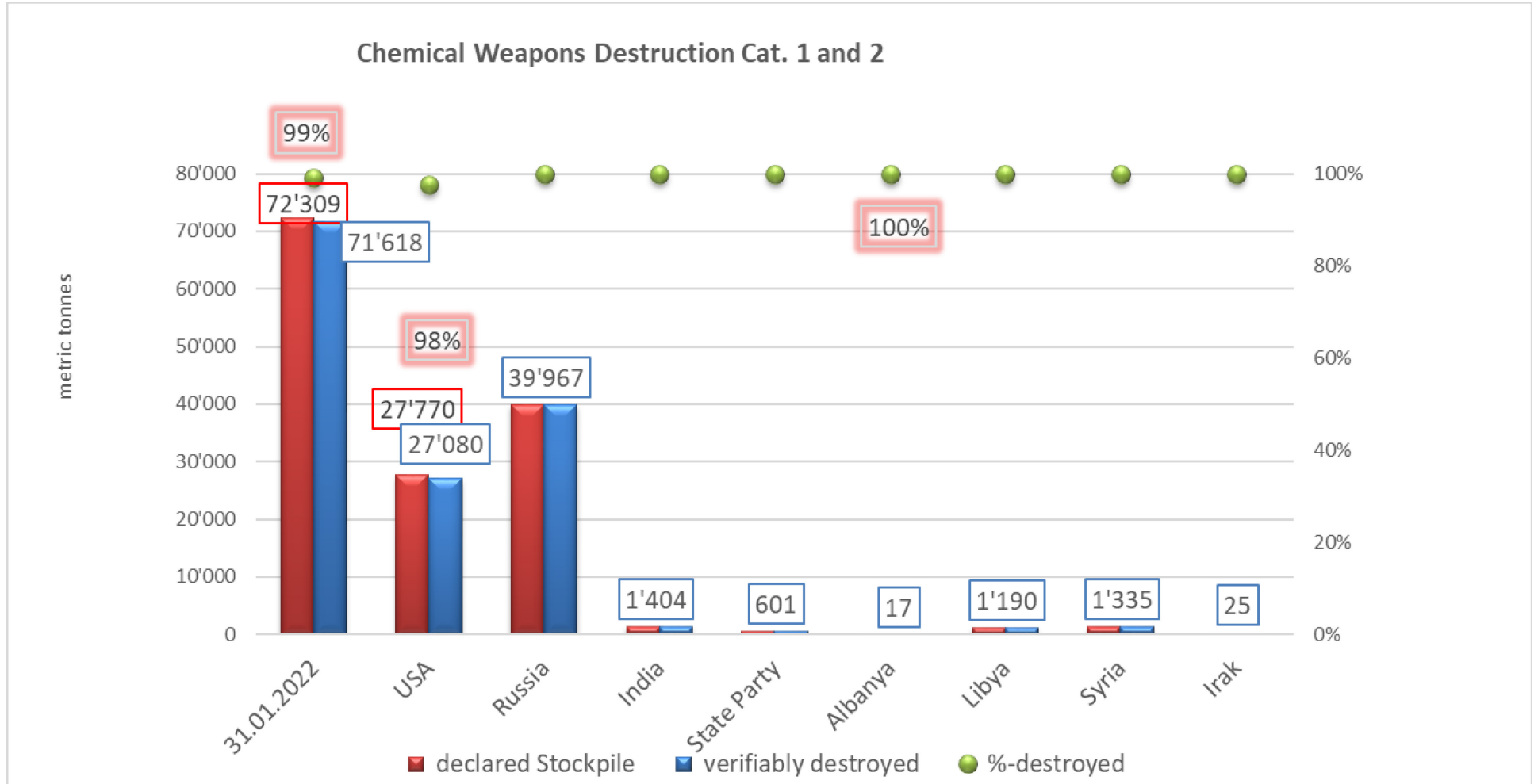
Russia, USA, Albania, "a State Party", India, Iraq, Libyan, Syria





# Chemical Weapons Convention

## Destruction of all declared CW and CWPF (Feb 28, 2022)



# Chemical Weapons Convention

## a) Destruction of all existing CW and CWPF

RUS: 39'967t destroyed (100%; End 2017)

Shchuchye,  
RUS





# RUS - Full Destruction of the 39'967to CW

27 September 2017

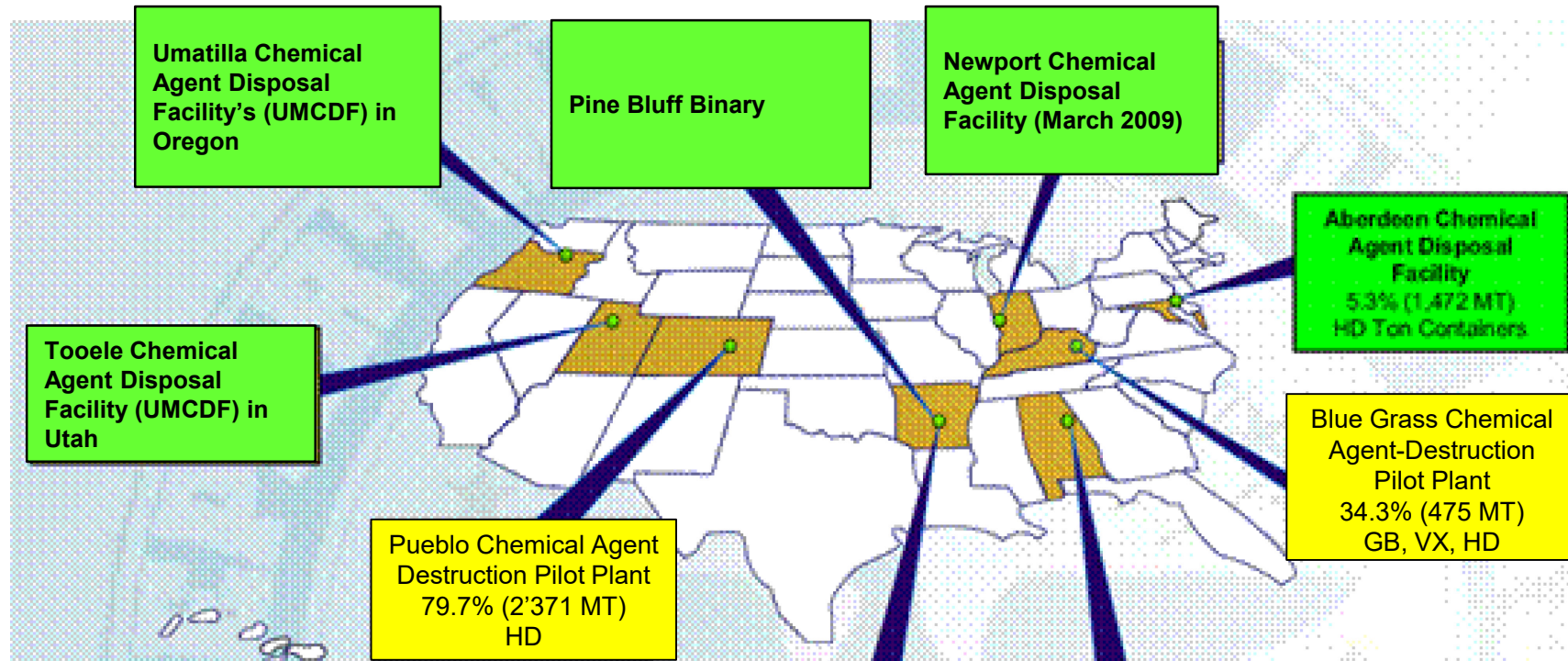


**OPCW Director-General Ahmet Üzümcü (right) and the Head of the Russian National Authority, Deputy Minister of Industry and Trade, Mr Georgy**





# USA – 98.1% of CW destroyed (May 22)



As our most recent report to the Executive Council (“the Council”) shows, the United States of America is expending **an additional one billion dollars (EUR 857 million) to install and operate static detonation chambers at both the Pueblo and Blue Grass destruction facilities to accelerate the destruction rate while ensuring continued safety to our stakeholders.** **The United States of America will spend over 13 billion dollars (EUR 11.22 billion) to complete destruction at the Pueblo and Blue Grass facilities.** This is on top of the one billion dollars the United States of America spent assisting the Russian Federation in the destruction of its declared stockpile and the additional, significant resources spent assisting other States Parties.



# LBY - Full Destruction of ~700to Category 2 CW 23. Nov. 2017



EC-M-52/DEC.1; 22 July 2016, UNSCR 2298  
Ship remnants of category 2 CW stocks to  
**DEU**

Sponsors: CAN, DEN, FIN, FRA, DEU, ITA,  
MAL, ESP, GBR, USA.







# IRQ

## Full Destruction of the Two Bunkers 13 and 41



Al-Muthanna Bunkers 13 and 41  
encapsulated with concrete  
(e.g. bunker 13: 1'500to foam  
concrete; 2300m<sup>3</sup> Portland







# SYR – CW Destruction Report

As of 27 July 2015

	Total Amount	<b>100% destroyed (5 Jan 2016)</b>
Total Category 1*	1,046,981 kg	
Total Category 2**	261,040 kg	
Total Chemicals (Cat. 1 and 2)	1,308,021 kg	

8 mobile “filling and mixing  
chemicals  
into warheads” – all destroyed

7 aircraft hangars – all destroyed

5 underground – all destroyed

7 stationary aboveground

⇒ **27 CWPFs – 27 destroyed**



## But Syria ...?

Fact Finding Mission (FFM), Declaration Assessment Team (DAT),  
Investigation and Identification Team (IIT)...ongoing





# Full Destruction from Other CW Possessor States

Name	declared CW	destruction	
• Albania	16.7t	100%	(June 2007)
• A State Party	~600t	100%	(10.07.2008)
• India	~1'000t	100%	(16.03.2009)
• Libya	~26.34t +846t Cat.2	100%	(30.09.2014)
• Iraq	bunker 13+41	100%	(23.11.2017)
• Syria	1'300t	100%	(5.01.2016)



Bunker 41







# Chemical Weapons Convention

b) Prevent and deter new CW armament through OPCW routine Inspections of the civil chemical Industry

Objective: verification of compliance with the Convention

- Are the submitted declarations accurate and correct?
- Any Schedule 1 chemicals?  
(particularly its production)



# Chemical Weapons Convention

c) Free trade in chemicals and open exchange of information on the peaceful applications of chemistry to further the economic and technological development of all States Parties



Internship program

protective equipment



Capacity building and advice on elimination of CW e.g. Albania





# Assistance to Iraq in June 2013

## Protection Course conducted in Switzerland



### Decommissioning Project Al-Muthanna Bunkers 13 and 41







# OPCW / CWC Mentorship Program Namibia



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# Namibia in Switzerland (8–11 February 2016)

## Emergency Response Team



## Chemical Industry Visit



Training on CWC Obligations for Industry  
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# Switzerland in Namibia from (07–12 August 2016)

Members of NA of Namibia



Defence Ministry



Training on CWC Obligations for Industry  
SECO and SPIEZ LABORATORY





# Thank you!

