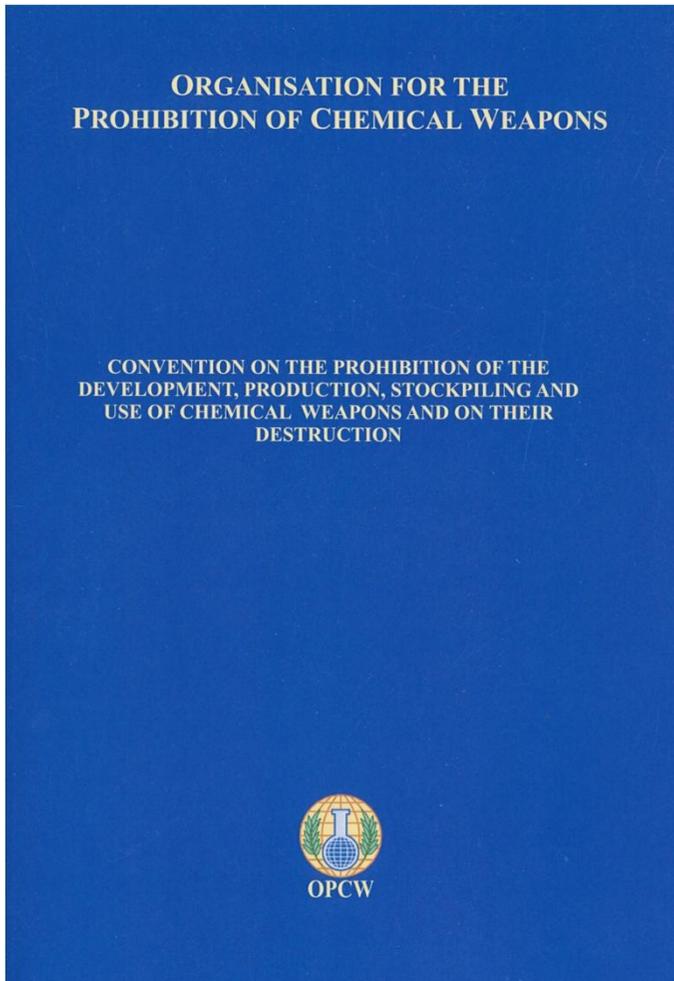


# Future Challenges for the Chemical Weapons Convention

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# Chemical Weapons Convention



- Completion of negotiations:  
September 1992
- Opening for signature: January 1993
- Entry into force (EIF): 29 April 1997
  
- Established the Organisation for the  
Prohibition of Chemical Weapons  
(OPCW)

# Chemical Weapons Convention

- **A disarmament treaty**
  - Bans development, production, possession and use of chemical weapons (CW)
  - Orders the destruction of
    - All existing CW (agents, delivery systems and special equipment)
    - Facilities associated with past CW programmes (conversion authorised in limited cases)
  - Establishes an international body: Organisation for the Prohibition of Chemical Weapons (OPCW)
  - Establishes an elaborate verification regime
  - Endeavours to prevent future armament or re-armament with CW
- **A multilateral treaty**
  - Global: any state may join the CWC
  - Equal rights and obligations for all states parties
- **Status**
  - 192 states parties
  - Four states must still join:
    - Egypt, Israel, North-Korea, South-Sudan
    - State of Palestine? (Joined the NPT in February 2015)

# Some CWC achievements

- **CW destruction (October 2016)**
  - Global declared stockpile: 72,304 metric tonnes of agent
  - Verified destruction: 67,098 metric tonnes (= 92.8%)
  - Global declared stockpile of chemical munitions and containers: 8.67 million pieces
  - Verified destruction: 4.97 million (= 57.3%)
- **Inspections (1997 – 2016)**
  - Declared CW facilities and sites: 8,612
  - Industry inspections: 3,322
- **Global coverage**
  - 98% of the world's population
  - 98% of the world's chemical industry
- **2013 Nobel Peace Prize**
  - Awarded for disarmament activities between 1997 and 2012

# Core components of the CWC

- **Prohibitions on**
  - Possession, acquisition, and use
  - Proliferation (= technology transfers for illicit purposes)
  - Based on 'General Purpose Criterion' (GPC) to deal with dual-use technology
- **Verification tools**
  - (National technical means)
  - Confidence-building measures
  - International organisation / National authorities
  - Reporting
  - On-site inspections and monitoring
- **Conflict resolution mechanisms**
- **Emergency assistance in case of use or threat of use of CW**
- **Investigation of alleged use and emergency assistance**
  - Today applied with respect to chlorine, mustard and sarin use allegations in Syria
- **'Non-security' clauses (cooperation for peaceful purposes)**

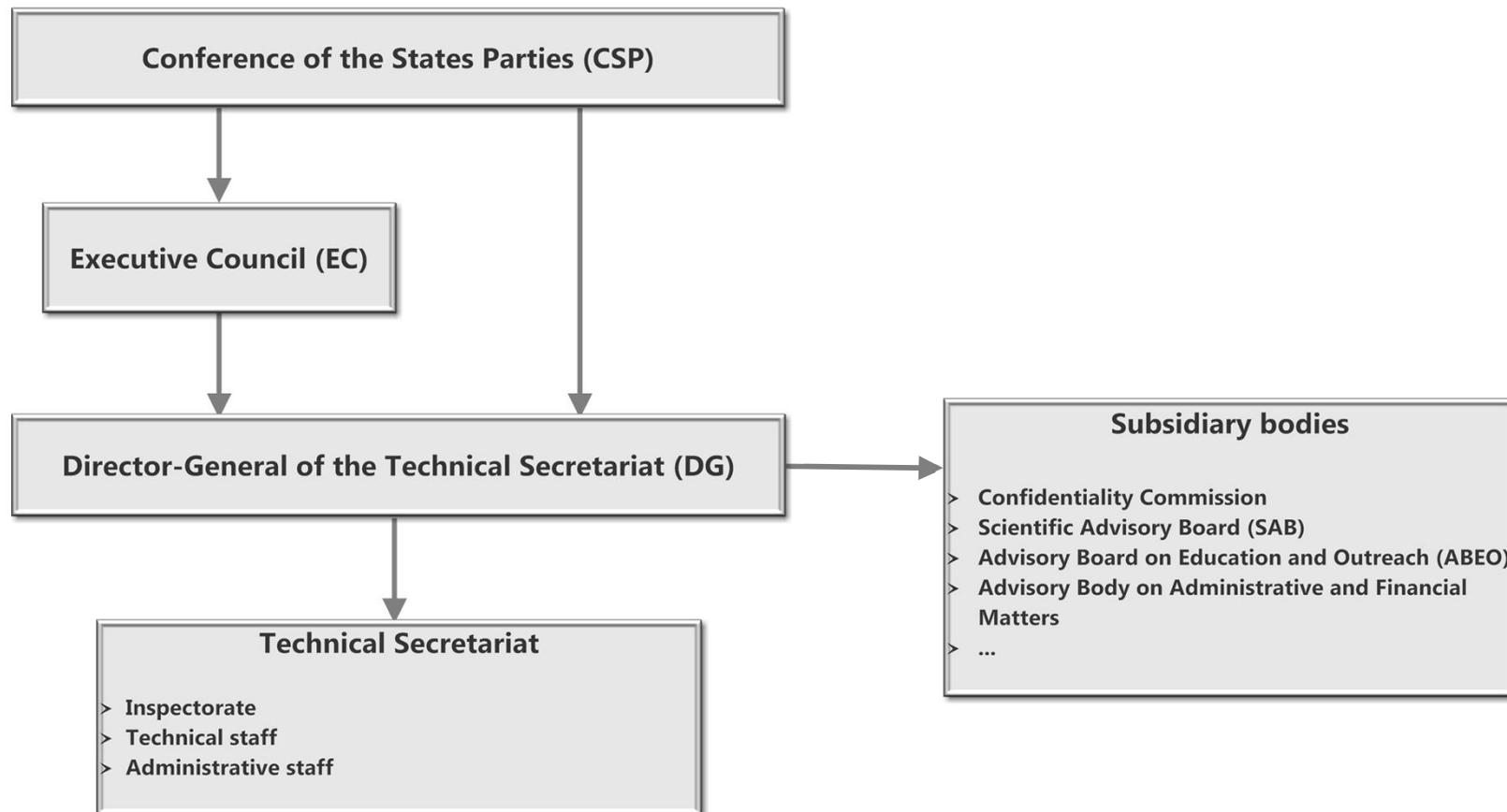
# CWC: organisation of compliance

- **Functions on the basis of the GPC**
  - Covers all toxic chemicals (past, present *and* future)
  - CWC contains 3 Schedules in annex
    - Schedules do not replace GPC
    - Tools to organise declarations and help with organisation of industry verification
- **Mechanisms to:**
  - Generate transparency → declarations
    - States parties must declare:
      - All past and present CW-related activities within treaty-specified parameters
      - Relevant chemical production facilities and that produce or consume certain scheduled chemicals or discrete organic chemicals; production volumes, and transfers of certain scheduled chemicals
    - Any unreported or erroneously reported activity is violation of CWC (but not necessarily a deliberate one)
  - Address anomalies
    - Consultations
    - Clarification requests
    - Challenge inspections
    - Investigation of alleged use of CW

# Basic operation of verification

- **CWC has an elaborate verification machinery**
  - OPCW as oversight and implementation organisation
    - The OPCW = collective of states parties
    - Comprises the Technical Secretariat for implementation of state party decisions and policy preparation
- **A division of labour between a state party and the OPCW**
  - Verification regime is a declaration-based system
    - The national collection of relevant data and their submission to the OPCW is an obligation
  - Specific state party responsibilities (obligations):
    - State Party – via National Authority – submits declarations
  - Technical Secretariat
    - Analyses national declarations and addresses anomalies
    - Conducts inspections (CW destruction, industry, government facilities)
    - Investigates compliance concerns if so requested
    - Investigates allegations of use

# Structure of the OPCW



# The CWC as a product of its time

- **Negotiated in the final stages of the Cold War**
- **Completion of negotiations just after end of Cold War (September 1992)**
  - Geopolitical dominance of the West in global security following dissolution of Warsaw Pact (March 1991) and USSR (December 1991)
  - Western paradigm shift from disarmament to non-proliferation
    - Australia Group: from a stop-gap solution pending the CWC to a permanent fixture
- **Preparation for EIF immediately after end of the Cold War (1993–97)**
  - Renewed assertiveness by Non-Aligned Movement (NAM)
    - Emphasis on equal importance of development and international cooperation, including technology transfers
    - Posed a direct challenge to the West's quasi-exclusive focus on security (CW destruction; CW programme dismantlement; and non-proliferation)
- **Take off:**
  - Hungary triggered 180-day countdown to EIF by depositing 65<sup>th</sup> instrument of ratification on 31 October 1996
  - Some key players missed their ratification deadline by EIF date so as to be an original state party (Russia, Iran, India, Pakistan, ...)
  - First Conference of the States Parties (May 1996): Key decisions for the future implementation of the CWC taken by original states parties

# Drawing the future

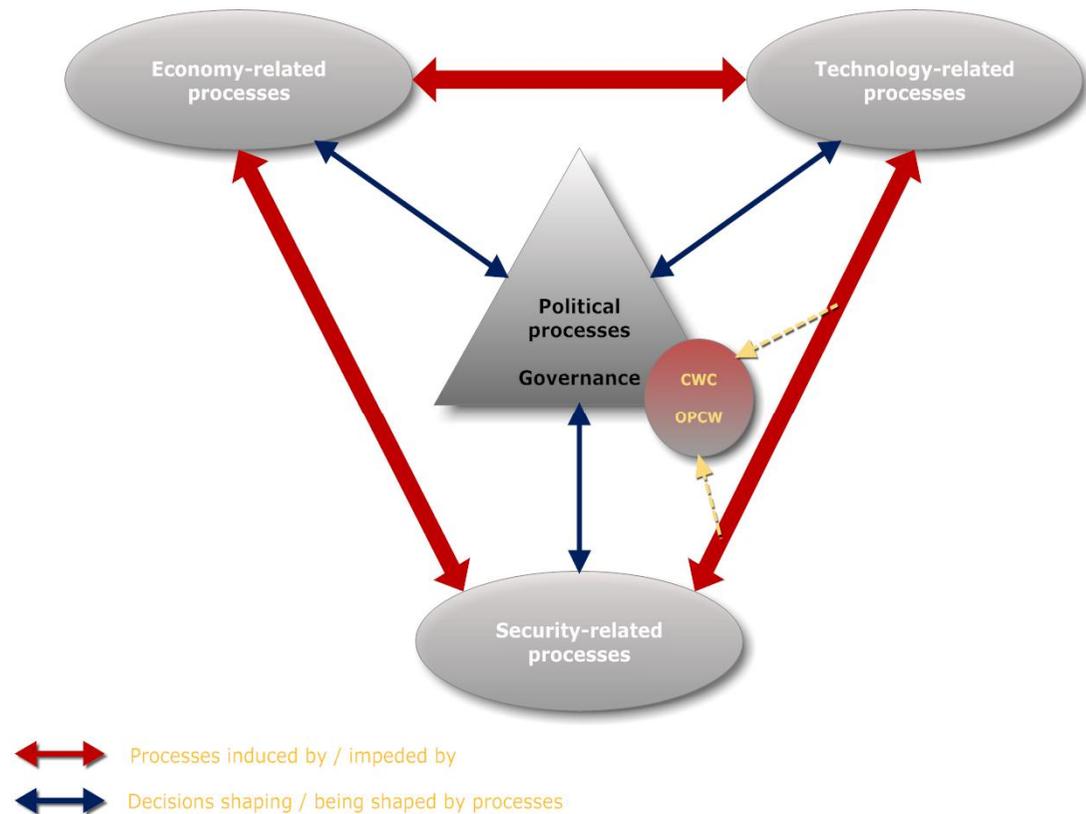
- **CWC of unlimited duration ≠ perpetual**
  - *Challenge*: How can the CWC retain its relevancy for States Parties after destruction of declared CW?
  - How can yesterday's culture be adapted to tomorrow's challenges?
    - Need for new balances between 'security' and 'peaceful cooperation'
    - Confidentiality vs need to reach out & interact with stakeholder communities
    - Decision-making processes (consensus vs majority voting)
    - Budgetary imperatives by states vs need for OPCW to maintain key capacities
- **Disarmament**
  - Backward-looking dimension
    - Destruction of existing stockpiles and weapon-related equipment
    - Destruction or conversion of production installations and other infrastructure
  - Forward-looking dimension
    - Prevention of future armament or re-armament
    - Governance of relevant dual-use technologies

# New confluences in science and technology

- **Convergence of several scientific and technological domains:**
  - Biology and chemistry
    - Development of new generation of incapacitating agents
    - Manipulation of biochemical processes on sub-cellular levels
  - Nanotechnology (= convergence between chemistry and physics)
    - Construction of artefacts on the level of individual molecules or atoms
    - May also be useful for new CBW defence technologies, protection or detection
  - Informatics
    - Computer-assisted creation of new compounds and study of their properties
    - Increasingly fast design of new molecules / gene sequences: 250,000 new genes sequenced/day; 15,000 new chemicals registered (CAS)/day
    - Simulation of processes
  - Engineering and process designs
- **Evolution of production processes:**
  - Modular production processes → may pose challenges for verification thresholds
  - Computer-steered production processes: consistent quality, reduced need for cleaning or interruptions for feeding (e.g., incubation or fermentation processes)

# Future governance challenges

- No unified model for governance of weapon control anymore
- States do not drive the processes anymore; they can steer in a limited way
- New stakeholders and security actors
- Increased role of non-state national & transnational actors
- Declining role of states in shaping developments
- Shifting relative balances of powers (economy, politics, military) and multiple power centres
- Geographical decentralisation of business and industry activities
- South-south trade patterns and impact on technology diffusion
- Etc.



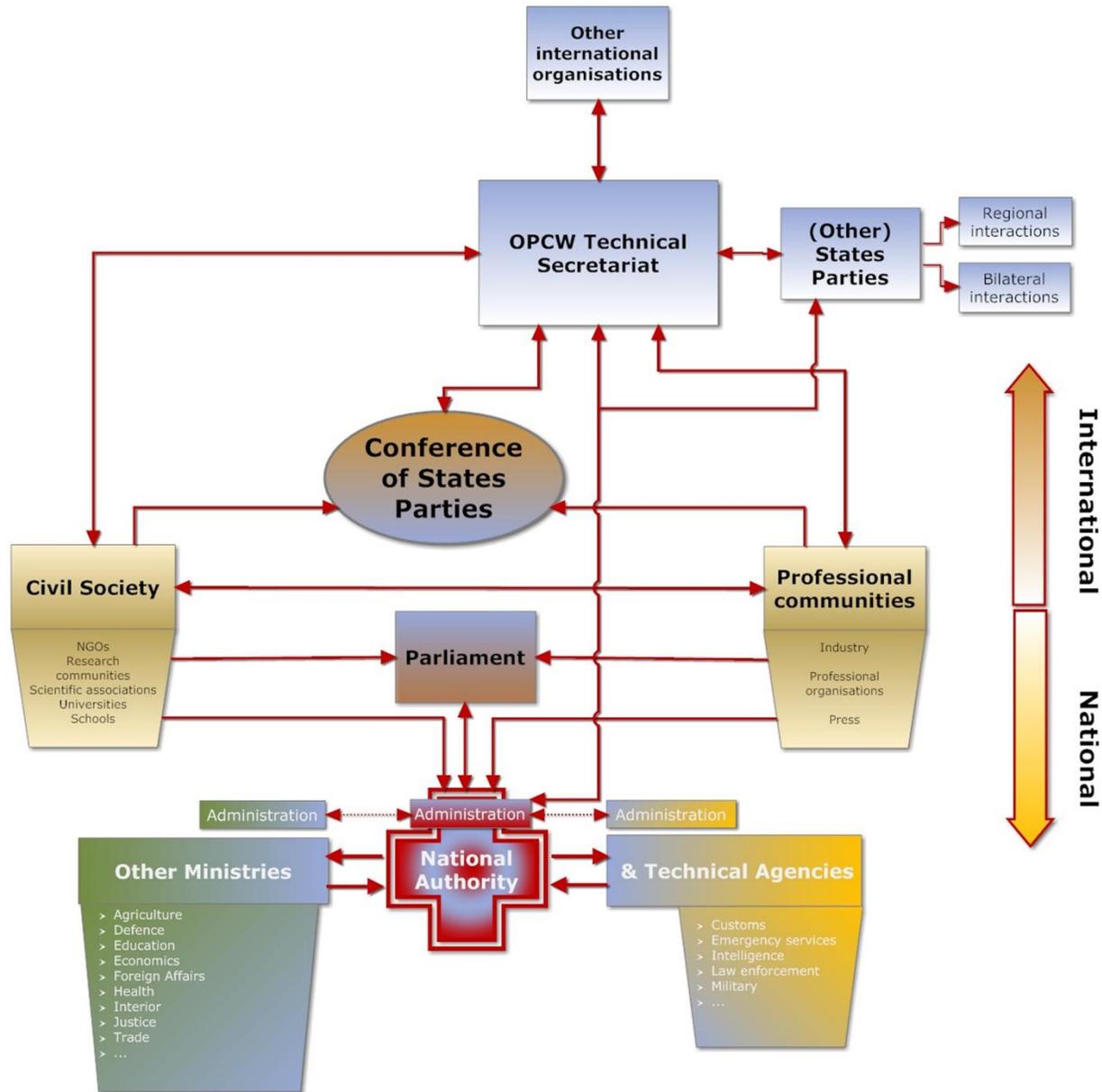
# After CW destruction – 1

- Centrality of industry activities: production, consumption & trade
  - *Article XI*: technology transfers, scientific exchanges, & other development cooperation
  - *Article VI*: transfers of toxic chemicals and their verification
  - *Article VIII*: CSP tasked with '*international cooperation for peaceful purposes in the field of chemical activities*' → enables deployment of future activities by OPCW
  - *Article X*: assistance in case of use or threat of use of CW → opportunities for chemical security and safety activities (which involve industry)

# After CW destruction – 2

- Prevention of armament: a challenge
  - Verification:
    - Post-destruction: reduction of inspectors envisaged but capacity for industry verification needs to be enhanced
    - Increased emphasis on transfer monitoring (Art. VI):
      - Is the current monitoring system adequate to capture the volumes of transfers of toxic chemicals?
      - Quid the General Purpose Criterion (vs. scheduled chemicals subject of reporting)?
      - Who verifies State Party reports?
  - Options:
    - Modification of reporting requirements and upgrading of monitoring system
    - Recruitment of more inspectors with proficiency in chemical industry?
    - Rebalancing functional division between OPCW and States Party responsibilities?
      - Enhanced verification responsibilities for States Parties
      - Greater lateral interaction among National Authorities relating to transfer monitoring
      - Reporting to OPCW + auditing process of national reports

# Stakeholder communities



# CW attacks in Syria

- **CW allegations mounting during 1st half of 2013**
  - 21 March: UNSG accepts Assad's request for an investigation of alleged use
  - August: UN team (OPCW + WHO) finally arrives in Damascus after much haggling
  - Team uses OPCW operational procedures for CW investigation and OPCW-certified reference laboratories
- **CW attacks against Ghouta (Damascus), 21 August 2013**
  - Change mandate UN investigative team
  - Preliminary report, 16 September (Ghouta only)
  - Final report, 12 December (also includes originally mandated investigations of allegations and some post-Ghouta allegations)
  - Outcomes:
    - Reports do not apportion blame
    - Ghouta: strong suggestion responsibility Syrian government
    - Earlier attacks: confirmation of sarin use in some of them; other evidence very limited
    - Still some open questions
- **Chlorine and sarin attacks (spring – summer 2014; 2015 – 2017)**
  - Confirmed by OPCW investigations
  - As good as certain that Syrian government forces are responsible
  - Some unconfirmed claims of ISIL use of chlorine and mustard agent (also in Iraq)
    - One as good as confirmed by OPCW investigation

# Opportunistic use of toxic chemicals

- **Syrian use of barrel bombs with chlorine**
  - OPCW investigated & confirmed allegations
  - February 2015: OPCW EC decision condemning chemical warfare in Syria (1<sup>st</sup> in a CWC state party)
  - March 2015: unanimous UNSC condemnation
  - UNSC Resolution 2235 (2015): Established OPCW – UN Joint Investigative Mission (JIM)
    - Determine criminal responsibility (so far 3 x Syrian government; 1 x ISIL)
    - Role for International Criminal Court?
    - How to proceed?
- **ISIL allegations of CW use**
  - AQI bombing campaign with chlorine (October 2006 – June 2007)
  - Syria: skin irritant report from Kobane area (August 2014)
  - Several chlorine reports from Iraq (September – October 2014)
  - Today: reports of chlorine and mustard agent (confirmed by OPCW)
  - Trend towards technology development for delivery systems?
- **Challenges**
  - How to investigate? Who requests investigation?
    - CWC: territory not under government control → UNSG's investigative mechanism
  - Kobane scenario: non-state actor against non-state actor on territory of CWC state party, but not under control of that state party
  - OPCW: strategies for chemical safety/security in conflict zones?
    - Preventive infrastructure protection strategies?

# Syria as a challenge to the CWC

- **OPCW verification of Syria's declarations**
  - Major gaps in the Syrian declarations: lack of documentary support
  - Unwillingness to resolve outstanding issues
    - Volumes of agent in storage
    - Material accounting of precursor/agent production, consumption or loss
    - Discovery of ricin factory; nerve agent traces at sites not declared by Syrian authorities; mustard agent destruction
  - Technical Secretariat cannot close dossiers
- **OPCW investigations into alleged use**
  - Establishment of a Fact-Finding Mission (FFM) for Syria
  - Limits investigations to whether or not an incident has taken place: recovery of forensic evidence; corroboration of allegations via various techniques; scientific analysis of recovered samples in OPCW designated laboratories → submission of factual report to states parties
  - Determination of criminal responsibility:
    - Investigation by OPCW – UN Joint Investigative Mechanism (JIM)
    - Reports to the UN Security Council
- **Geopolitical priorities by states parties**
  - Denial by some parties that the incidents of CW use attributed to the Syrian government took place
  - Challenges to the integrity of OPCW methodologies, even though they were unanimously approved by states parties
  - Support for the Syrian regime versus calls for regime change
  - Outside support for the various belligerent parties: no consensus of direction to be taken or, more urgently, on how to terminate the war

# Still, a receding chemical threat

- Cold War
  - USA (1990): 30.000 agent tonnes
  - USSR (1990): 40.000 agent tonnes
- Iraq (Gulf War) / North Korea
  - Multiple thousands of agent tonnes
- Syria
  - 1,300 tonnes of precursor chemicals
  - $\pm$  20 tonnes of mustard agent
  - Some undeclared weapon holdings?
- Libya
  - $\pm$  26 tonnes of mustard agent
  - Precursor chemicals
- Terrorism
  - A few kilogrammes
  - Opportunistic use of industrial toxic chemicals



# THE TRENCH

**Recalling** where science, industry and military art converged  
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