Novel and Important Signals to Watch: Threats and Opportunities

- **Massive investments by all possessor states in nuclear weapons and related missiles**
  - Modernization of nuclear weapon arsenals. [New York Times (1); SIPRI (1)]
  - Development of low-yield weapons & new types of missiles (hypersonic & cruise missiles). [UNODA; The Guardian (1); IISS (1); New York Times (2)]
  - *How could the EU influence nuclear weapons states to prevent a dangerous nuclear arms race?*

- **Diffusing lines between CBRN and conventional weapons**
  - Increasing number of delivery systems with dual use capabilities. [BBC (1); BASIC]
  - Risks involved by entanglement of Command & Control systems. [Carnegie; Arms Control Association (1)]
  - *What measures could the EU propose to nuclear weapon states to prevent nuclear warfare due to misunderstandings?*

- **Developments in biotechnology with risk of creating new biological weapons**
  - Rapid emerging new gen-editing technologies such as CRISPR. [Deccan Chronicle; IDSA]
  - Biological dual-use technologies become more easily available for non-state actors. [SIPRI (2); WEF; IDSA]
  - *What policies could the EU develop to prevent any weaponization of new biological technologies?*

- **Developments in chemical science with risk of creating new chemical weapons**
  - Increasing convergence between pharmaceutical and military applications. (Frequently mentioned during expert discussion)
  - Chemical dual-use technology becomes more easily available for non-state actors [SIPRI (3)]
  - *How could the Organisation for the Prohibition of Chemical Weapons be strengthened to prevent any abuse of dual-use chemical technology?*
**Long Term Trends: Development of the Threat**

Multifactor Threat Assessment (10-year timespan)

<table>
<thead>
<tr>
<th>Trends</th>
<th>Indicator</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arsenals</strong></td>
<td>Number of CBRN weapons</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Investments in modernisation of weapons</td>
<td>▲</td>
</tr>
<tr>
<td></td>
<td>Investments in missiles</td>
<td>▲</td>
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<tr>
<td><strong>Policies</strong></td>
<td>Political threshold for CBRN weapon use</td>
<td>▼</td>
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<tr>
<td></td>
<td>Non-state actors’ access to CBRN weapon technology</td>
<td>▲</td>
</tr>
<tr>
<td></td>
<td>Clear lines between CBRN and conventional weapons</td>
<td>▼</td>
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<tr>
<td></td>
<td>Trust in multilateral system regarding CBRN</td>
<td>▼</td>
</tr>
</tbody>
</table>

- **Decreasing threat**
- **Increasing threat**
- **Upward**
- **Downward**
- **Net-zero / Stable**
Novel and Important Signals to Watch: The International Order

- **Demise of existing CBRN arms control agreements**
  - US & Russian withdrawal from INF Treaty & nearing end of New START. [IISS (2); Arms Control Association (2); Arms Control Association (3); Jane’s 360]
  - Problems with JCPOA & tensions within NPT, CWC, BTWC and CTBT context. [Politico; CSIS; BBC (2); The Guardian (2)]
  - *How could the EU strengthen (trust in) existing arms control agreements?*

- **Lowering threshold for nuclear weapon use**
  - Political rhetoric with implicit threats of nuclear war in of some nuclear weapon states. [Reuters]
  - Perception in some nuclear weapon states that nuclear weapons are ‘usable’ in war. [The Bulletin of Atomic Scientists (1); The Bulletin of Atomic Scientists (2)]
  - *What could the EU do to ensure that nuclear weapons will never be used again?*

- **Proliferation of CBRN technology**
  - International concerns about the nuclear programs of Iran & Saudi Arabia. [Brookings; Bulletin of Atomic Scientists (3); The Economist; IISS (3)]
  - Little control & knowledge regarding the spread of new biological & chemical technologies. [SIPRI (2); IDSA]
  - *How could the EU prevent any proliferation of CBRN technologies?*

- **Impunity of chemical weapons use**
  - Chemical weapons were used in Syria, Malaysia and United Kingdom. [SIPRI (3)]
  - So far, fewserious consequences were faced by perpetrators (state & non-state), which may encourage other actors to use chemical weapons as well. [Arms Control Association (4); SIPRI (3)]
  - *In what way could the EU end the perception of impunity of actors using chemical weapons?*
# CBRN Weapons

Long Term Trends: Development of the International Order
Multiyear Regime Analysis (10-year timespan)

<table>
<thead>
<tr>
<th>Norms</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>States should work towards a world without CBRN weapons</td>
<td>▼</td>
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<tr>
<td>CBRN weapons should never be used</td>
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</tbody>
</table>

<table>
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<th>Rules</th>
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<td>Arms control agreements should not be violated</td>
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</tr>
<tr>
<td>Access of non-state actors to CBRN weapon materials should actively be prevented</td>
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</tr>
</tbody>
</table>

▲ Upward  ▼ Downward  ■ Net-zero / Stable

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For a general methodological justification of horizon-scanning click [here](#) and for the methodology document specific to CBRN weapons click [here](#).

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