With Wolfgang Hoffmann as its Executive Secretary and just a handful of staff, the CTBTO started its operations on the seventh floor of the Vienna International Centre on 17 March 1997.

Even though the Treaty negotiations had been long and complex, the period between the Treaty’s opening for signature on 24 September 1996, the establishment of the CTBTO on 19 November 1996, and the date the organization started its operations comprised a bare six months.

Two weeks after India conducted two sets of nuclear tests, Pakistan responded by exploding two sets of its own underground nuclear devices on 28 May 1998. The tests sparked international condemnation and resulted in the universal adoption of United Nations Security Council Resolution 1172.

Although the CTBTO was still in its infancy, it was already receiving data from its first seismic stations. It was therefore able to provide Member States with estimates of the time, location and magnitude of the events.

Speaking on CNN after the Senate failed to ratify the CTBT on 13 October, U.S. Secretary of State Madeleine Albright said: “What we’ve lost for the time being is the real international leadership in terms of trying to make others live up to the CTBT.”
On 18 December, the first IMS hydroacoustic station was certified. HA08 is located on the island of Diego Garcia in the British Indian Ocean Territory (Chagos Archipelago).

IMS hydroacoustic stations monitor the oceans for evidence of a nuclear explosion. Installation of the stations is a highly specialized and costly operation, involving numerous technical and logistical challenges.

When complete, the network will comprise 11 stations. Few stations are required because of the efficient transmission of sound through water, meaning that even comparatively small signals are readily detectable at very long distances.

On 31 October, the world’s first radionuclide laboratory designed to verify compliance with the CTBT was brought into service. RL03 is located just outside Vienna, Austria.

Radionuclide stations detect radionuclide particles and noble gases like xenon. Specific radionuclides such as xenon can help provide evidence of a nuclear explosion.

When complete, the network will include 16 laboratories.

Primary seismic station PS19 in Freyung, Germany, (see photo above) was one of 11 seismic stations to be certified in 2002. The yellow markings in the picture indicate the array element configuration.

Seismic stations monitor the Earth for underground nuclear explosions. Primary seismic stations relay data continuously in real time to the International Data Centre in Vienna. Auxiliary seismic stations provide information only upon request.

When complete, the seismic network will comprise 50 primary stations and 120 auxiliary stations around the globe.
Mauritania’s ratification on 30 April 2003 increased the number of ratifications to 100. The photo shows radionuclide station RN43 in the distance during a sand storm at Nouakchott, Mauritania.

A number of other countries signed or ratified the CTBT in 2003: Côte d’Ivoire, Gambia, Albania, Kuwait, Oman, Algeria, Cyprus, Palau, Afghanistan, Kyrgyzstan, Honduras and Eritrea.

When infrasound station IS36 on New Zealand’s Chatham Island was certified on 24 November, it became the 100th IMS station to become fully operational.

When complete, a network of 60 infrasound stations will monitor the Earth for atmospheric nuclear explosions. The construction of infrasound stations around the globe since 1997 has contributed to a revival of scientific interest in this technology.

After the massive tsunami caused by an earthquake off the coast of Sumatra, Indonesia, on 26 December, claimed the lives of over 230,000 people, the CTBTO’s Member States allowed the use of CTBT verification data for disaster mitigation purposes for the first time.

As of 1 March 2012 Australia, France, Indonesia, Japan, the Philippines, Thailand, Turkey and the United States had signed agreements with the CTBTO to receive tsunami warning data.
On 9 October, North Korea announced that it had conducted a nuclear test. Over 20 IMS stations detected the event. Less than two hours later, Member States received information on the time, location and magnitude of the event. Two weeks later, IMS radionuclide station RN16 at Yellowknife, Canada, registered a high concentration of the radionuclide xenon 133. Using Atmospheric Transport Modelling calculations, scientists at the CTBTO could link the detection of xenon 133 at RN16 to the site of the explosion in North Korea, providing “smoking gun” evidence of a nuclear test.

On 25 May 2009, North Korea conducted a second nuclear test. CTBTO Member States received the first automatic analysis of the event even before North Korea had announced the test. With the IMS network having expanded since 2006, 61 stations detected the event. The UN Security Council unanimously condemned both tests.

IMS status as of 31 December 2007

<table>
<thead>
<tr>
<th>IMS Status</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully Operational</td>
<td>37</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Under Construction</td>
<td>78</td>
<td>21</td>
<td>8</td>
</tr>
<tr>
<td>Not Certified</td>
<td>10</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>In Operation</td>
<td>39</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Under Certification</td>
<td>50</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Radionuclide</td>
<td>10</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
<td>35</td>
<td>26</td>
</tr>
</tbody>
</table>

Over a four-week period, the CTBTO simulated its first entire on-site inspection (OSI), allowing it to assess the readiness of the OSI regime. The inspection area was located in a remote corner of Semipalatinsk – the Soviet Union’s nuclear test site – ensuring that equipment was tested under realistic conditions. Around 200 participants were involved and over 50 tonnes of equipment were shipped to the site.

On 25 May 2009, North Korea conducted a second nuclear test. CTBTO Member States received the first automatic analysis of the event even before North Korea had announced the test. With the IMS network having expanded since 2006, 61 stations detected the event. The UN Security Council unanimously condemned both tests.
Around 450 scientists from over 70 countries congregated at the Hofburg Palace in Vienna in June to assess the CTBT’s capability and readiness to detect nuclear explosions anywhere on the planet. Participants at the International Scientific Studies conference also discussed how the CTBT’s global alarm system could benefit from future scientific and technological developments.


“I have called on numerous occasions for those States whose ratification is required for the Treaty’s entry into force to act first without waiting for others to do so. We can no longer wait for the perfect international environment before taking advantage of existing – and potentially short-lived – opportunities. Be Courageous. Take the initiative. Be the first mover.”

UN Secretary-General Ban Ki-moon, fifth Ministerial Meeting, UNHQ, New York, September 2010

By the end of the year, 182 countries had signed the CTBT and 153 had ratified.

After the 11 March devastating tsunami caused serious damage to the Fukushima-Daiichi nuclear power plant in Japan, the CTBTO provided 120 Member States and 1,200 institutions as well as international organizations concerned with disaster mitigation with information about the composition and dispersal of radioactive materials stemming from the plant.

The CTBTO also became a reliable source of information to the media and general public worldwide on the radioactive dispersal.

2009
Hundreds of scientists flock to Vienna

2010
182 signatures and 153 ratifications

2011
Fukushima-Daiichi Disaster
On 6 February 2012 Indonesian Foreign Minister Marty Natalegawa deposited his country’s instrument of ratification of the CTBT with the UN Secretary-General Ban Ki-moon at the UNHQ in New York.

As one of the 44 Annex 2 countries that must ratify the CTBT before it can enter into force, Indonesia’s ratification was very significant.

As of 1 March 2012, 182 countries had signed the CTBT and 157 had ratified it. Eight Annex 2 countries still need to ratify: China, the Democratic People’s Republic of Korea, Egypt, India, Iran, Israel, Pakistan and the United States.

Swedish Foreign Minister Carl Bildt addressing participants attending the CTBTO’s 15th anniversary event at the United Nations in Vienna on 17 February 2012. UN Secretary-General Ban Ki-moon and Austrian State Secretary for Foreign Affairs Wolfgang Waldner are seated in the front left hand row.