At present stage of development of process monitoring instruments those measuring physical variables are accurate enough to be used for that purpose but may not alone suffice for verification purposes.

Combined use of those techniques gives the fingerprint of the process which is confidential business information that the Technical Secretariat must appropriately protect. This information could be evaluated with the aid of artificial intelligence and pattern recognition techniques.

If the chemical warfare agents could be produced with similar production processes in suboptimal process conditions process monitoring equipment may not be sufficient to detect such production. The facility may also change the production parameters of its processes which further complicates data evaluation. Flow could, however, be monitored and perhaps with the instruments of the facility.

One of suitable techniques for detection of undeclared chemicals is near infrared spectrometry with fibre optics. This simple instrument gives fingerprints of every molecule. It is applicable to gases, liquids and solids. At present its use for verification purposes is restricted by the demand for frequent maintenance, limited library spectra and tools for data evaluation. Of these limiting factors the maintenance is the most difficult to solve.

Continuous sampling and the analysis of the samples during on-site visits is a promising alternative approach. Although it requires further development the time-frame for this development may prove to be sufficient for application when the Convention enters into force. The magnetic tape "sample-now-analyse-later" -system allows for an evaluation at an appropriate and minimized intrusion level. It also seems to be suitable for preserving samples long enough to allow inspections including retrospections once or twice a year. The tamper resistance and suitability for industrial environments must be tested.

4. Schedule 3 production

Only data reporting is envisaged on the rolling test for the verification of the production of Schedule 3 chemicals.