ICP Materials

Summary of activities and results 2014-2015 & workplan 2016-2017
Aims of the programme

• Quantify effects of corrosion and soiling (dose-response functions)
• Describe and evaluate long-term changes in corrosion and soiling (trends)
• Apply results for mapping areas with increased risk of corrosion and soiling
• Calculation of cost of damage caused by corrosion and soiling

• Focus on multi-pollutants but taking into account confounding factors including climate effects
Overview of work plans

• 2014-2015 work plan (highlights)
  • Report on trends in pollution, corrosion and soiling 1987-2012
  • 2014-2015 exposure for trend analysis - ongoing
  • Initial discussions on call for data on inventory and condition of stock of materials at UNESCO cultural heritage sites

• 2016-2017 work plan
  • To be discussed and confirmed at task force meeting
  • 2017-2018 exposure for trend analysis
  • Further development of activities targeted towards cultural heritage at UNESCO sites

• Policy relevant questions
  • What improvements in corrosion and soiling of materials and cultural heritage can be observed?
  • Considering the improvements, are there still differences in corrosion and soiling between polluted and non-polluted areas?
  • What are the main pollutants responsible for corrosion and soiling of materials and can the most recent dose-response functions predict corrosion and soiling in the current multi-pollutant situation?
  • Will climate change decrease or increase the risk of corrosion and soiling due to pollution?
  • What errors, if any, are introduced by using EMEP (50 km x 50 km) data for predicting corrosion?

• Basis for ICP Materials contribution to WGE trend report and assessment report

• Available for download at ICP Materials home page
Outreach

• Russia is included in the programme and participated recent meetings and has declared its willingness to be active in involving other EECCA countries

• Interaction with standardisation group ISO TC 156 Corrosion of metals and alloys - new work item proposal on a technical specification of mapping procedures

• Interaction with standardisation group CEN TC 346 on cultural heritage conservation – information exchange
Activities targeted towards cultural heritage at UNESCO sites
Pilot study on inventory and condition of stock of materials at risk at UNESCO cultural heritage sites

- Greece, Athens
  - The Parthenon

- France, Paris
  - The Facades in the Centre of City

- Czech Republic, Prague
  - The Klementinum

- Germany, Berlin
  - Neues Museum

- UK, City of Bath
  - Royal Crescent
Further development of activities targeted towards cultural heritage at UNESCO sites

Collection of information from literature data on anthropogenic activities that could determine the levels of pollutants affecting the studied UNESCO sites.

Elaboration of maps of atmospheric pollution;

Elaboration of corrosion maps in an adequate area around the site;

Individuation of the major contributors of air pollution-related problems at the studied UNESCO sites;

Propose measures to be adopted to improve air quality at UNESCO sites and to prolong the maintenance intervals for restoration works.
Call for data proposed by ICP Materials

Cultural sites included in the UNESCO World Heritage List can serve as well-known indicators for the individuation of areas with increased risk of corrosion due to atmospheric pollution and for the economic evaluation of the damage caused by air pollution.

The purpose of the call would be:

To disseminate the experience gained during the “Pilot study on inventory and condition of stock of materials at risk at UNESCO cultural heritage sites”;

To identify UNESCO sites at risk in individual countries;

To raise the interest in the work of ICP Materials.
Call for data proposed by ICP Materials
Draft template

- Site information
- Characterisation of the cultural heritage
- Concentration of atmospheric pollution
- Climate
- Additional information
Draft brochure on activities targeted towards cultural heritage at UNESCO sites
Proposed time plan

• Finalization of the Call for Data at 31st ICP Materials Task Force meeting, Kjeller, Norway (April 2015)

• Pre-announcement of a Call for Data on inventory and condition of stock materials at UNESCO cultural heritage sites (May 2015).

• Proposal of the Call for Data submitted to WGE (September 2015) for review and possible adoption and subsequent EB confirmation.

• Launch of a Call for Data (early 2016).
Welcome to ICP Materials 31st meeting!
April 22-24, 2015
Kjeller, Norway