

Interreg
CENTRAL EUROPE



InAirQ

European Union
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Development Fund

TRANSNATIONAL ADAPTION ACTIONS FOR INTEGRATED INDOOR AIR QUALITY MANAGEMENT

INAIRO NEWSLETTER #2

YEAR 2 | JULY 2017



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INTRODUCTION

InAirQ project enters now in its second year. In this newsletter we will report the project advancements and the meetings that took place, as well as the future activities.

First years' activities that started include:

- the completion of the Vulnerability assessment of the school stock for each state partner;
- the creation of Virtual Health Repository;
- the organization of the First Transnational Environment Quality Forum, which took place in every state partner;
- the Joint Transnational Strategy for Indoor Air Quality Action Plan

The InAirQ workgroup also organized the second Work Group (WG) meeting, which was hosted by the Slovenian National Institute of Public Health (Nacionalni inštitut za javno zdravje - NIJZ) in Ljubljana, on the 21st and 22nd of February, 2017.

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VULNERABILITY ASSESSMENT

During the second InAirQ WG meeting, each country presented a **Vulnerability Assessment** which included several information to better contextualize each country's actual situation of school buildings stock and air quality.

Reference legislation analyses were carried out for each country, too.

Data reported included:

- Diffusion and number of primary schools based on national statistics and national or regional surveys;
- types of school buildings;
- general overview about the state of conservation of the school buildings;
- major characteristics and problems regarding the maintenance of the buildings, highlighting those problems which might affect indoor air quality;
- features of the facilities;
- type of management.

Further data presented were indoor air quality data collected during previous monitoring campaigns in school buildings.

Each partner has contributed for its own country to the construction of the Virtual Health Repository (see an example below), gathering also existing data about indoor air quality field campaigns carried out in school buildings from previous projects (e.g., SEARCH, Sinphonie project) and literature research on national campaigns and local case studies.

These data were then gathered in the **Virtual Health Repository**, a shared database that collects, compares, evaluates and disseminates indoor environmental facts from the project partners in order to compare the nature and extent of indoor air pollution in schools.



Primo Levi Institute (Torino)
Period = May 2014 - January 2015
Type of Data = monthly average

Classroom	Formaldehyde (µg/cbm)	VOC (ppm)	Umidity (%)	Temperature (°C)	Luminosity (Lux)
05/2014	29,65	5,67	233,0	17,2	580
06/2014	36,86	7,94	194,5	22,5	1067
07/2014	48,92	11,01	40,0	25,2	1340
08/2014	52,07	9,94	30,4	26,5	1467
09/2014	38,92	10,49	56,6	23,2	1131
10/2014	42,02	21,07	121,5	20,1	749
11/2014	39,18	33,19	82,4	19,3	614
12/2014	34,69	135,31	61,3	19,8	637
01/2015	35,95	80,78	59,3	18,9	
Total Average	39,81	35,04	97,7	21,4	948



TRANSNATIONAL ENVIRONMENT QUALITY FORUM

The Transnational Environment Quality Forum has been established to contribute to the project results, by sharing the deliverables of the InAirQ project and assisting stakeholders to implement indoor air quality improvement protocols.

The first round of EQFs took place during the first months of 2017 in each state party, organized and hosted by each partner. For each event, stakeholders were present, including institutional bodies, research institutes and environment agencies, as well as school representatives.





THE ROAD TO THE JOINT TRANSNATIONAL STRATEGY FOR INDOOR AIR QUALITY

The core activity of InAirQ project is the development of a **Transnational Strategy** aimed at the planning of actions for the improvement of Indoor Air Quality in schools (Work Package T3).

A series of activities are preparatory and necessary to set up the strategy, as outlined in the Technical Work Package T2 (transnational base lining and monitoring with stakeholder involvement).

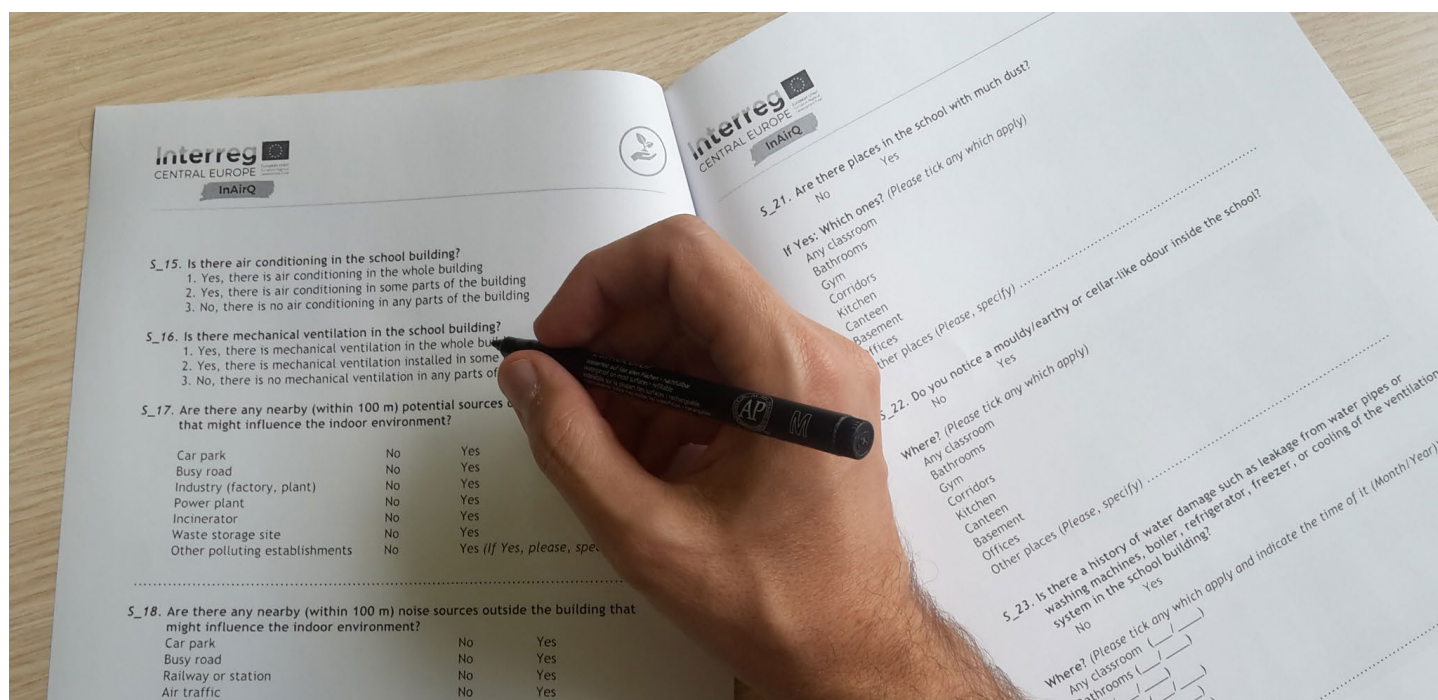
These will include:

- a campaign of measurement of several pollutants and parameters found in a selected group of classes scattered through each partner state's territory;
- a survey of the occurrence of symptoms in pupils/students in each school involved in the project.

The results of these activities will be the preparatory information background helpful to shape the actual strategy for the improvement of indoor air quality of the classrooms.

The steps undertaken until now are:

1. **Selection and recruitment of schools:** the project partners have chosen a series of school buildings that are representative of the building stock of the country in terms of typology, construction technology and age. School buildings were selected to collect exposure, ventilation and microclimatic factors and exhalation of harmful compounds. For each state party, project partners have taken field surveys to the selected schools in order to confirm suitability of the buildings for the further study and to select the proper classroom for measurements.
2. **Characterization of the building and study areas:** through a questionnaire/checklist study, each project partner collected detailed information about each school related to buildings, classrooms selected for measurements,





THE ROAD TO THE JOINT TRANSNATIONAL STRATEGY FOR INDOOR AIR QUALITY

school surroundings, and possible specific sources of harmful agents (indoor and outdoor) that can affect and decrease indoor air quality including HVAC (Heating Ventilation Air Conditioning). The checklists and questionnaires were filled in by the school management staff person and in consultation with the study teams during their visits to the school buildings. More information were collected through interviews performed with schools heads or other responsible persons indicated by them. Information collected in each school building is entered into the Virtual Health Repository after finishing each field study.

3. Choice of the pollutants and parameters to monitor:

- VOCs: benzene, toluene, xylenes, ethylbenzene, n-hexane, trichloroethylene, tetrachloroethylene, α -pinene, limonene, 2-butoxyethanol, 2-ethylhexanol, styrene, (naphthalene)
- Aldehydes: formaldehyde, acetaldehyde, acroleine, propionaldehyde, benzaldehyde, hexanal, glutaraldehyde³
- Temperature, relative humidity, carbon dioxide, carbon monoxide, nitrogen dioxide, ozone
- PM 2.5 mass concentration

NEXT STEPS

Next steps towards the preparation of the transnational strategy will include:

- Choice of the instrument for the measurement campaign in the selected classrooms (still in progress).
- A questionnaire campaign about the characterization of the selected classroom (one for each state partner). This activity will be completed in fall 2017.
- Survey of the occurrence of symptoms in pupils/students in each class involved in the project through a questionnaire study submitted to the their families (fall 2017).
- Actual indoor air quality data measurements, in each school selected according to the protocol (the campaigns will be performed between October 2017 and February 2018).
- The aforementioned measurements will be matched by environmental monitoring (outdoor) for each indoor measurement series.

Analysis of the gathered data will follow: once completed, the action plans and the capacity building actions will be defined (WP T3).



EVENTS

SECOND WORK GROUP MEETING

21-22|02|17

LJUBLJANA
SLOVENIA

The Slovenian National Institute of Public Health (Nacionalni inštitut za javno zdravje - NIJZ) hosted the second WG meeting in Ljubljana during the 21st and 22nd of February, 2017.

Project Partners have discussed about the outcomes of the first Environment Quality Fora meetings, summarized the results of the vulnerability assessment and the collection of historical data.

They planned the next activities to be performed for the InAirQ project, introducing the selection of schools and their features.

Discussion of the details of the IAQ monitoring

campaign and related issues (virtual health repository, data collection, questionnaire on respiratory and allergic health of schoolchildren and home environment were carried out.

Some best-practice solutions have been examined to tailor the tools aimed at investigating indoor air quality in the selected schools.

Finally, the first Working Group workshop focused on sharing methodology for baseline analysis and virtual health repository, has also included a visit to Primary School Karla Destrovnika-Kajuha, in Ljubljana.





EVENTS

UPCOMING EVENTS

26-27|09|17

TURIN
ITALY

The third Work Group meeting will take place on 26th and 27th of September, 2017, and will be hosted in Turin, Italy, by SiTI - Istituto Superiore sui Sistemi Territoriali per l'Innovazione.

During the same days the midterm international conference will be organised.

Project partners will invite community representatives and panelists from health and educational sector and other policy bodies

for a roundtable talk, in order to better communicate the project results.

Midterm conference will be also organised by SiTI, in Turin, Italy.





THE INAIRQ PARTNERS

WHO WE ARE

Partners from five Central European Programme countries join their forces to improve indoor air quality in primary and secondary schools.

5
COUNTRIES

2 HU **2** IT

2 PL

1 CZ

2 SI

9
PROJECT PARTNERS

7 PUBLIC
2 PRIVATE

6
PUBLIC AUTHORITIES

1
SCHOOL

1
HIGHER EDUCATION & RESEARCH CENTRE

1
NETWORK GDO



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Marshal Office of Lodzkie
region



National Institute of
Public Health



Municipality of Várpalota



Slovenian National
Institute
of Public Health



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Nofer Institute of
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Primary School Karla
Destovnika-Kajuha



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