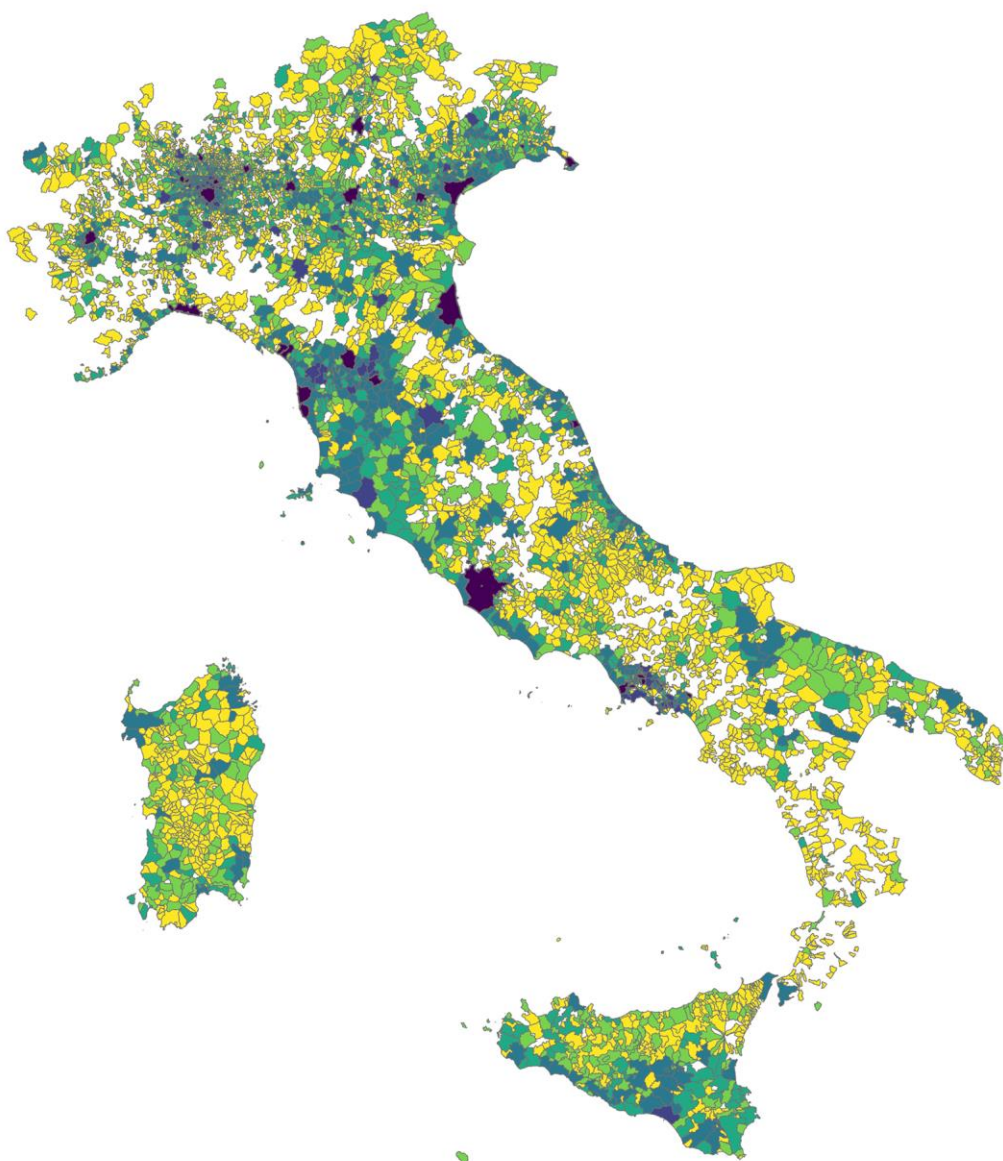


# Synthesis of the Report “Status of contaminated sites management in Italy: regional data”

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## Authors

Federico Araneo, Eugenia Bartolucci, Antonella Vecchio (ISPRA)

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## GLOSSARY AND MAIN DEFINITIONS

**Legislative Decree n. 152/06 (D.Lgs. 152/06):** current legislation covering the issue of contaminated sites management.

**Ministerial Decree n. 471/99 (D.M. 471/99)** previous legislation on contaminated sites management. According to this legislation a site was defined as contaminated if screening values (called limit values) were exceeded and those values also represented the targets for remediation.

**Potentially Contaminated Site:** a site where, after a preliminary investigation phase with soil and/or subsoil and/or groundwater sampling, screening values (CSC) according to the specific land use are exceeded.

**Contaminated Site:** a site where, after a main site investigation and a site-specific risk assessment, unacceptable risks to human health of environment are associated to soil and/or groundwater contamination or in an equivalent manner site-specific target values (CSR) for soil and/or groundwater are exceeded. It should be declared also as contaminated a site where, after a main site investigation screening values (CSC) are exceeded, and these latter are set as remediation targets without performing the site-specific risk assessment. A contaminated site mandatory needs intervention to reduce the risks fo human health or the environment or to reach the site-specific target values.

**Not Contaminated Site:** a site where, after preliminary or main site investigation, screening values (CSC) are not exceeded or a site where, after site-specific risk assessment, acceptable risks to human health of environment are associated to soil and/or groundwater contamination or in an equivalent manner site-specific target values (CSR) for soil and/or groundwater are not exceeded.

**Site with Measures Completed:** a site where a remediation (reduction of concentrations in soil and/or groundwater below site-specific target values - CSR) or a permanent or an operational safety measure (intervention aimed at isolating temporary or permanently the contamination sources) has been completed and certified by the competent authority.

**Screening Values (CSC):** concentration values for soil and groundwater environmental media which, if exceeded, determine the need of performing a detailed investigation and, if applicable, a site-specific risk assessment. CSC are set by current legislation (D.Lgs. 152/06) for more than 100 substances in soil and groundwater. Values for soil are differentiated for residential/green land use and for industrial/commercial land use. For specific areas, screening values can be set equal to background values in case these latter exceed the CSC.

**Site-specific Target Values (CSR):** target concentrations determined as a results of a site-specific risk assessment performed in backward mode.

**Contaminated site management procedure:** the whole administrative and technical management process of a site, from the suspect of contamination and the identification phase to the actions eventually needed to reduce contamination/risks to acceptable levels.

**Notification:** the first step of the management procedure starting with the suspect of contamination for soil, subsoil and groundwater. The procedure stars when a contamination event, like a spill or accident, has occurred, or an historical contamination is discovered, for example during a permit control activity. According to current legislation the notification of a contamination is mandatory for the polluter or the interested subject (e.g the owner of the site) or the public authority discovering the contamination.

**Preliminary investigation:** first investigation phase that is mandatory after the notification step. It consists in limited soil and/or sub-soil and/or groundwater sampling with the aim of assessing if the contamination event/discovering has caused a potential soil and or groundwater contamination. This is made by the comparison between the concentrations found in soil and/or in groundwater with screening values (CSC).

**Main site investigation:** a detailed site investigation with the main aim of defining the definitive conceptual site model to perform the site-specific risk assessment.

**Site-specific risk assessment:** a technical/scientific procedure aimed at quantifying the potential risks to human health and the environment associated to the local conditions of the site based on the source/pathway/receptor scheme defined by the definitive conceptual site model. The procedure can be applied in the forward mode to assess the risks associated to soil and/or groundwater contamination (baseline risk assessment) or in the backward mode to quantify the site-specific target concentrations in the environmental media (CSR).

**Remediation:** an intervention performed in a contaminated site to reduce the concentrations in soil and/or groundwater below CSR-

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**Permanent Safety Measure:** an intervention performed in a contaminated site with the aim of isolating in a definitive way the contamination sources from the relevant human health or environmental receptors.

**Operational Safety Measure:** a temporary measure performed in an operating contaminated site, waiting for the remediation at the cessation of the activity. The aim is to reduce the contamination diffusion between environmental media (e.g release from soil to groundwater) and to reduce risks to the relevant human health or environmental receptors.

**Sites of National Interest (SIN):** 42 National Priority List Sites, defined according to D. Lgs. 152/06 based on contamination and/or management complexity. Management of the SIN is under the direct care of the Ministry of the Environment, Land and Sea (now Ministry for the Ecological Transition - MiTE).

**Administrative extent:** sum of cadastral parcels that are completely or partially involved in the administrative procedure. If the procedure also (or only) involves the groundwater matrix, the administrative area does not exceed the property boundary, since the Point of Compliance (POC) with groundwater quality criteria is positioned, according to current legislation, at the site (i.e. property) boundary.

**Technical extent:** surface projection of the sources of soil / subsoil contamination deriving from the final conceptual model of the site after main site investigation.

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## INTRODUCTION

This document summarizes the main contents of the Report “Status of contaminated sites management in Italy: regional data” (“Lo stato delle bonifiche dei siti contaminati in Italia: i dati regionali” - Edizione 2021. ISPRA, Rapporti 337/21, ISBN 978-88-448-1036-8 available in Italian at ISPRA website: <https://www.isprambiente.gov.it/it/pubblicazioni/rapporti/lo-stato-delle-bonifiche-dei-siti-contaminati-in-italia-i-dati-regionali>).

The information presented in the report includes the number of sites and related areas interested by contamination management procedures in charge of the Regions or other local delegated authorities, excluding areas included within the Sites of National Interest (SIN), i.e. national priority list areas, under the direct care of the Ministry of the Environment (now Ministry for the Ecological Transition - MiTE).

Data collection has been carried out annually from 2017 to 2020. The data cover the whole national territory with an increasing level of detail over time: from regional (2017) to municipal (2019 and 2020).

The report shows the results of the 2020 data collection, including all the procedures surveyed by the Regions/Autonomous Provinces at 31.12.2019, and represents the most recent, complete, and reliable national dataset.

The collected data allow to describe the status of the sites both with ongoing and completed management procedures including the management progress and the state of contamination.

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# 1 THE REPORT: ORIGINS, CHALLENGES, BARRIERS, METHODOLOGY

The aim of this report is to present reliable, homogeneous, and comprehensive data at national level on contaminated sites management. In fact, this kind of information is often requested by citizens, stakeholders, institutions and decision-making bodies at national and EU level, including the European Environment Agency.

The activity launched in 2016 by the National System for the Protection of the Environment (SNPA) responds to this need, through the Network of Contaminated Sites Referents. The Network includes representatives of all regional and provincial environmental protection agencies involved in the management of contaminated sites regional registers and, with the decisive contribution of the Regions and of the Autonomous Provinces, allowed to have a comprehensive knowledge on the state of the art on this issue never achieved before.

The collection, systematization, and analysis of a common dataset on contaminated sites management administrative procedures allowed to adequately describe both the management progress and the state of environmental contamination.

The data collection was not easy because, even within the same legislation umbrella requiring the Regions and Autonomous Provinces to compile the inventory of the sites to be remediated (containing the list of the sites under remediation and environmental restoration, the activities carried out and the identification of subjects responsible for the remediation), the registers structure is affected by the different approaches adopted by local authorities in the recording and management of the information related to administrative and technical procedures. This leads to registers that are different from each other, often not comparable and, in some regions, consisting of quite simple databases.

Furthermore, systematization and data analysis also accounted for the following factors:

- the legislation introduced in 2006 changed the contaminated sites identification procedure making site-specific risk assessment mandatory in case of the screening values (CSC) exceedance in soil/groundwater;
- the increasing of the identification complexity making new management steps not easily associable with the previous ones;
- the above mentioned different characteristics and contents of the regional registers;
- the management of databases by the Regions and/or by the regional agencies.

Data collection included various phases aimed at:

1. assessment of the information available in the regional registers and databases;
2. creation of a common vocabulary;
3. standardization of the classification for both the management procedures and the state of contamination;
4. creation of a scheme to be progressively populated;
5. creation and sharing of a tool not interfering with existing structures (registers or databases) and allowing the valorization and dissemination of the available information.

The collected information includes the number of sites and related areas interested by management procedures in charge of the Regions or other local delegated authorities, excluding areas included within the Sites of National Interest (SIN), i.e. national priority list areas, under the direct care of the Ministry of the Environment (now Ministry for the Ecological Transition - MiTE).

Data collection has been carried out annually from 2017 to 2020. The data cover the whole national territory with an increasing level of detail over time: from regional (2017) to municipal (2019 and 2020).

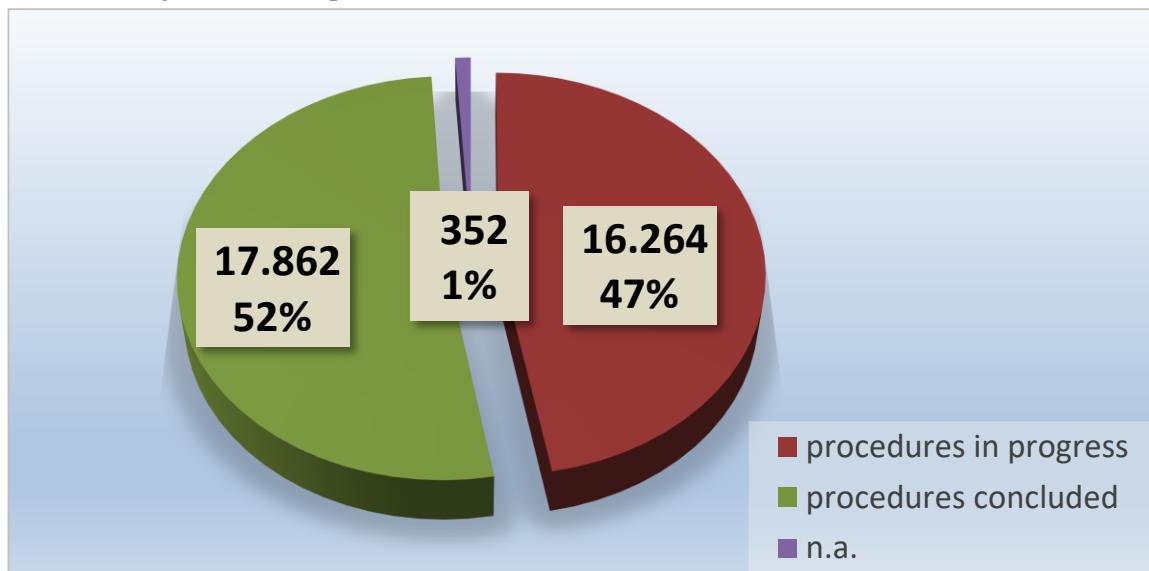
This report shows the results of the 2020 data collection, including all the procedures surveyed by the Regions/Autonomous Provinces at 31.12.2019, and represents the most recent, complete, and reliable national dataset.

The collected data allow to describe the status of the sites both with ongoing and completed management procedures including the management progress and the state of contamination.

## 2 TOTAL, IN PROGRESS AND COMPLETED MANAGEMENT PROCEDURES

The first assessment looks at the total number of sites subjected to an administrative procedure of local contamination management according to Legislative Decree n. 152/06. The dataset covers all the procedures collected in regional registers, including those started and/or completed under the previous legislation (DM 471/99).

Total number of sites, updated to 31/12/2019, is 34.478; 16.264 sites have ongoing procedures and for 17.862 management is completed.



The distribution of sites with management of local contamination is not homogeneous over the national territory.

<i>Region/Autonomous Province</i>	<i>Sites with management procedure in progress</i>	<i>Sites with management procedure concluded</i>	<i>Total sites subjected to management procedure</i>
<i>Abruzzo</i>	862	346	1.208
<i>Basilicata</i>	237	65	302
<i>Calabria</i>	114	107	221
<i>Campania</i>	3.252	449	3.701
<i>Emilia-Romagna</i>	548	533	1.081
<i>Friuli-Venezia Giulia</i>	200	1.034	1.234
<i>Lazio</i>	1.015	197	1.212
<i>Liguria</i>	333	447	780
<i>Lombardia</i>	2.827	7.489	10.316
<i>Marche</i>	570	508	1.078
<i>Molise</i>	30	59	89
<i>Piemonte</i>	829	990	1.819
<i>Puglia</i>	357	184	541
<i>Sardegna</i>	592	463	1.055
<i>Sicilia</i>	1.060	325	1.385
<i>Toscana</i>	1.901	2.459	4.360
<i>Trento</i>	143	340	483
<i>Bolzano</i>	27	332	359
<i>Umbria</i>	91	76	167



<i>Region/Autonomous Province</i>	<i>Sites with management procedure in progress</i>	<i>Sites with management procedure concluded</i>	<i>Total sites subjected to management procedure</i>
<i>Valle d'Aosta</i>	<i>31</i>	<i>168</i>	<i>199</i>
<i>Veneto</i>	<i>1.245</i>	<i>1.291</i>	<i>2.888</i>
<b><i>TOTAL ITALY</i></b>	<b><i>16.264</i></b>	<b><i>17.862</i></b>	<b><i>34.478</i></b>

Data also include information on the extent of the areas interested by the contamination management and the number of the administrative procedures that contribute to their calculation.

Information on site extent is very heterogeneous. Since the first data collection in 2017 (after the evaluation of the regional registers structure/contents) appeared that the extent of the site in the inventories was recorded in different ways: the administrative extent refers to cadastral information on the whole site property while the technical extent refers to the areas interested by potential contamination and/or confirmed contamination depending on the knowledge level of the site.

The information on extent is recorded for the 67% of the sites; the extent of the areas interested by regional contamination management procedures is equal to 66.561 ha (666 Km<sup>2</sup>) representing the 0,22% of the whole national territory. Areas with ongoing procedures cover 37.816 ha while 28.745 ha refer to management completed.

Despite the limited information available, at the current state of knowledge, approximately an area corresponding to the extension of the municipality of Arezzo (22nd municipality in Italy by extension) is currently involved regional management procedures, while the equivalent to the municipality of Modica (43rd municipality in Italy by extension) has been remediated or confirmed as not contaminated.

At national level:

- risk management measures (remediation, permanent and operational safety measures) are approved or concluded (waiting for final certification) in almost the third part of the areas (11.755 ha equal to 31% of the sites for which the extent is known).
- 12.927 ha (34% of the sites for for which the extent is known) are in the first identification phase (notification of an event of potential contamination).

Among the released areas after the closure of the regional administrative procedure, almost four hectares out of five are not contaminated and not needing any intervention.

A further interesting comparison can be made between regional extent data with the extent of the Sites of National Interest, whose ground area is 1.721 Km<sup>2</sup> and represents 0,57% of the whole national territory.

### 3 ITER OF THE PROCEDURES IN PROGRESS

Iter of the procedures has been described by 3 aggregated phases representing the 7 management steps used for data collection, starting from the opening of the administrative procedure to the after-care monitoring; the relevant phases used are:

- notification
- conceptual model
- remediation

The “notification” phase is the first step of the site identification process (suspect of contamination) and coincide with the starting of the administrative procedure.

The “conceptual model” phase aggregates the steps contributing to the development of the site conceptual model in terms of detection and quantification of contaminants in the environmental media, site-specific parametrization of the source-pathway-receptor scheme both for human health and environmental risk assessment and eventually for the actions to be carried out (remediation, operational and permanent and safety measures). The “conceptual model” phase can be identified as an assessment phase.

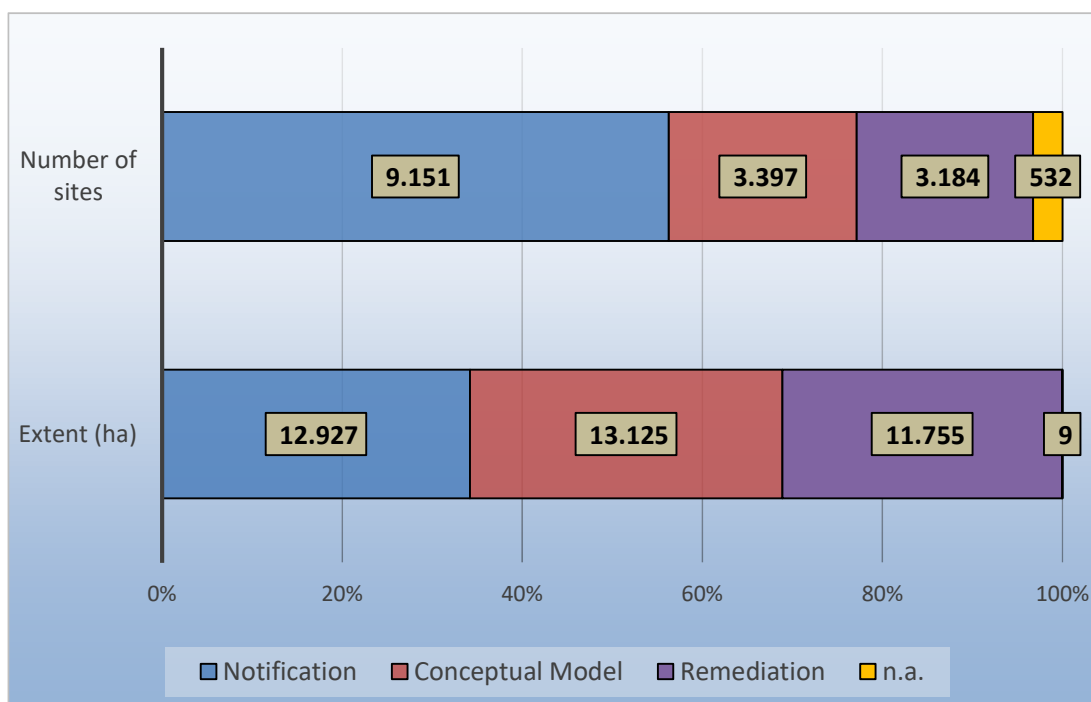
The “remediation” phase aggregates the steps going from the project approval for remediation or operational or permanent safety measures to the conclusion of the intervention activities waiting only for the final certification. The “remediation” phase can be identified as an action phase.

At national level more than half of the sites with ongoing procedures (9.151, 56%) is in the first phase of the administrative procedure; it concerns mainly sites where the contamination status is not known or is known preliminarily.

Following phases of “conceptual model” and “remediation” are equally distributed among sites (respectively 3.397 sites equal to 21% of the ongoing procedures and 3.184 sites, equal to 20%), for remaining 3% (532 sites) management step information is not available.

In terms of areas, it is possible to associate to 16.264 progressing procedures a whole extent of 37.816 ha (extent is known for 66% of the sites). Total extent is splitted as follows:

- 12.927 ha include sites in the “notification phase” (suspect);
- 13.125 ha include sites in the “conceptual model phase” (assessment);
- 11.755 ha include sites in the “remediation” phase (action).
- 9 hectares include sites without any information about the management step.



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Summarizing the progress of the management procedures in percentages, the following results can be shown:

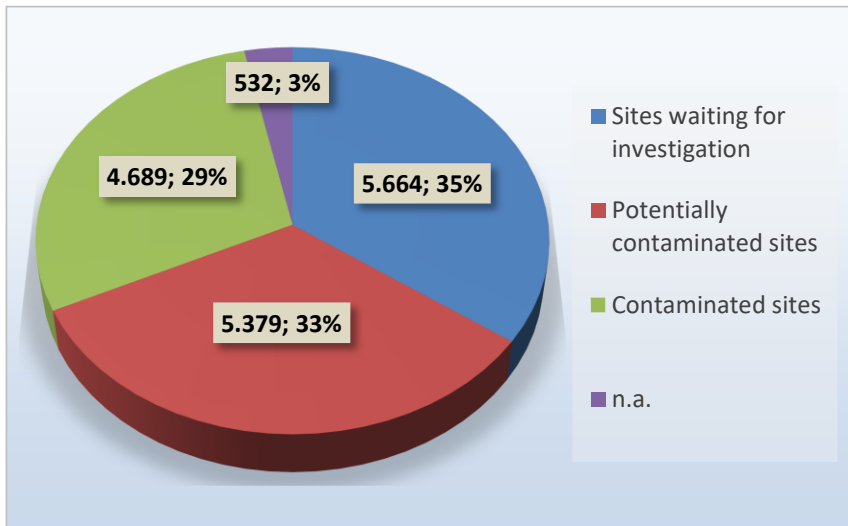
- in the “notification” phase are the 56% of the sites and the 34% of the areas;
- in the “conceptual model” phase are the 21% of the sites and the 35% of the areas;
- in the “remediation” phase are the 20% of the sites and the 31% of the areas;
- for the 3% of the sites there is no available information on the management progress.

*It is interesting that the majority of the sites with ongoing management are in the first phase of the procedure, i.e. the “notification” phase. But if the site extent data are considered, the three phases are equally represented.*

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## 4 STATUS OF THE CONTAMINATION FOR THE PROCEDURES IN PROGRESS

The information on the contamination status is reported for a significant part of the sites whose management is in progress (15.733, equal to 97% of the sites). At national level there is a substantial balance between sites waiting for preliminary investigations (contamination not known – 35%), potentially contaminated sites (screening values exceeded – 33%) and contaminated sites (unacceptable risks – 29%).



It is interesting to verify actions taken in the contaminated sites to make environmental conditions acceptable of human health and for the quality of soil and groundwater media. This can be made comparing the number of contaminated sites with the number of sites with approved project (remediation or safety measures) or with measures completed waiting only for final certification.

Results of the comparison show that over 4.689 registered contaminated sites, 2.505 projects have been approved (53% of the contaminated sites), 679 interventions have been completed and wait for the certification (14% of the contaminated sites) and 1.505 sites (32% of the contaminated sites) do not have any action planned. Among these latter, 533 (11% of contaminated sites) have the site-specific risk assessment approved stating the “contaminated site” status and for the remaining 972 (21% of contaminated sites) site-specific risk assessment has not been carried out.

*In conclusion for 32% of registered contaminated sites, no action has been planned or started and for 21% there is no available information on the management progress.*

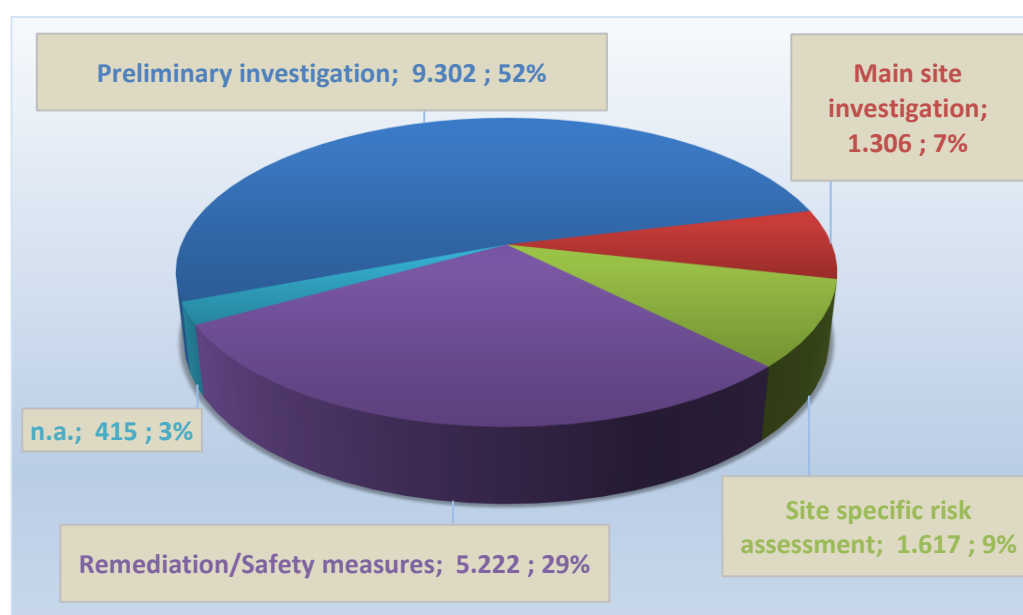
## 5 COMPLETED MANAGEMENT PROCEDURES

Procedures completed at national level are 17.862. Distribution is heterogeneous among Regions for different reasons, but the major effect is caused by the starting year of the information recording in the regional registers which varies between 1999 and 2016.

<i>Region/Autonomous Province</i>	<i>Number of completed procedures</i>	<i>Starting year of registration in regional register</i>
<i>Abruzzo</i>	346	2006
<i>Basilicata</i>	65	2000
<i>Calabria</i>	107	2000
<i>Campania</i>	449	2005
<i>Emilia-Romagna</i>	533	1999
<i>Friuli-Venezia Giulia</i>	1.034	2001
<i>Lazio</i>	197	2000
<i>Liguria</i>	447	2002
<i>Lombardia</i>	7.489	1999
<i>Marche</i>	508	2000
<i>Molise</i>	59	2000
<i>Piemonte</i>	990	1999
<i>Puglia</i>	184	2001
<i>Sardegna</i>	463	1999
<i>Sicilia</i>	325	2016
<i>Toscana</i>	2.459	1999
<i>Trento</i>	340	2003
<i>Bolzano</i>	332	2000
<i>Umbria</i>	76	n.d.
<i>Valle D'Aosta</i>	168	1999
<i>Veneto</i>	1.291	2010

Despite this, it is interesting to assess, when available (98% of the sites, covering 17.447 procedures) the reasons of the procedure closure.

In the 29% of the cases an intervention (remediation or safety measure) was needed to manage the risks and/or to reach site-specific target values (CSR) or screening values (CSC).



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*More than half of the procedures (9.302, equal to 52% of the sites) have been closed after preliminary investigation, 1.306 procedures after main site investigation and 1.607 after site-specific risk assessment. This suggests that many procedures in the “notification” phase may be verified and solved with a well designed and timed preliminary investigations.*

The total extent of the 17.862 sites with management completed is 28.745 ha (extent is known for the 69% of the procedures). Among these:

- 22.689 ha refer to procedures concluded with no intervention needed;
- 6.056 ha refer to procedures concluded with an intervention (remediation, permanent or operational safety measures).

In summary:

- more than 2/3 of the procedures (68%) have been closed without interventions after a preliminary or main site investigation (identification process) stating that the site is not contaminated; referring to site extent the percentage of this category is 79%;
- intervention has been carried out only for the 29% of the sites (21% of the areas); in these cases, the site has been identified as contaminated and, after intervention, risks have been managed and taken back to acceptably also with the reduction of concentrations to site-specific target values (CSR) or screening values (CSC).

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## 6 TERRITORIAL DATA

The data collected was also processed and analyzed at the territorial level with municipal and provincial detail. Results are affected by the heterogeneity of the information provided by the Regions, resulting in a limited comparability each other.

Infact, population of some indicators depend on the organization rules adopted by the Regions for alimenting their registers/databases. For example, more recent regional registers include on average less data on concluded procedures with respect to registers active for a longest time. Consequently, among municipalities with a higher number of completed procedures, is more frequent the presence of those belonging to Regions with registers managed for a longest time.

Despite this important limitation, in this Report for some indicators the list of the more representative municipalities has been reported. Lists should not be considered as ranking with merit or demerit classification, but an expression of quantitative data at territorial level.

*At the reference date for collected data (31-12-2019), total number of municipatilies is 7904. Among these:*

- *3.742 municipalities have on their territory at least one contamination management procedure in progress;*
- *3.607 municipalities have on their territory at leas one contamination management procedure concluded;*
- *5.171 municipalitites are affected by at least one procedure in progress or concluded;*
- *2.733 municipalities were never interested by a contamination management procedure.*

*Municipalities that have a significant charge, more than 50 procedure in progress, are 31; in particular 20 have up to 100 procedures and 11 have more than 100 procedures.*

<b>Number of procedures in progress</b>	<b>Number of municipalities</b>	<b>% of municipalities with procedure in progress</b>
<i>1</i>	<i>1.756</i>	<i>47%</i>
<i>2-5</i>	<i>1.409</i>	<i>38%</i>
<i>6-10</i>	<i>305</i>	<i>8%</i>
<i>11-50</i>	<i>241</i>	<i>6%</i>
<i>51-100</i>	<i>20</i>	<i>&lt; 1%</i>
<i>&gt;100</i>	<i>11</i>	<i>&lt; 1%</i>

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## **7 CURRENT LIMITATIONS OF THE DATA COLLECTION**

The contaminated sites data collection performed by the National System for the Protection of the Environment (SNPA) through the Network of Contaminated Sites Referents with the decisive contribution of the Regions and of the Autonomous Provinces, allowed to have a comprehensive knowledge on the state of the art on this issue never achieved before.

Despite this result, it is evident that current available data have some limitations such as:

- information on the management of the Sites of National Interest is missing;
- data are aggregated not allowing to assess each single management procedure, but conversely allowing analyses at different territorial levels (municipal, provincial, regional and national);
- data on site extent are heterogeneous (administrative extent vs technical extent) and in some cases not available or with a limited availability;
- some indicators are affected by the differences in the population and administration of each of the regional register/database;
- currently it is not possible to assess the application of different administrative procedures or the application of remediation technologies including their performance in terms of costs/environmental benefit analysis;
- information on pollutants and their diffusion in the environment currently is not available.



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## 8 PRIORITIES AND PERSPECTIVES

The Report “Status of contaminated sites management in Italy: regional data”, even with some limitations, shows the outcomes of a knowledge activity and data production for decision supporting and it is currently the only national monitoring tool concerning the contaminated sites issue.

Priorities emerging from the assessment are:

- define the contamination status in the 5.664 sites waiting for investigations (35% of the ongoing procedures) through preliminary investigations or studies/evaluations from local competent authorities to achieve the closure of the administrative procedure in those not needing further assessment especially in regions particularly affected by this kind of sites;
- define the management solutions for the 972 contaminated sites (21% of the total number of contaminated sites) in which the progress is not known;
- implement the acquisition of site extent data for Regions not providing them or providing them in limited cases.

Next editions of this Report will include more information to enlarge the knowledge on this issue, to contribute to a greater citizens awareness and to promote a better orientation of the decision makers at different administrative level.

Based on what has been illustrated so far, the themes that should be deep evaluated or newly issued can be identified and the following actions need to be completed:

- extend the data collection and assessment also to procedures included in the Sites of National Interest, harmonizing information on the Sites of National Interest with those available at regional level in order to have a comprehensive picture of the contamination status and management progress of contaminated sites in Italy;
- abandon the assessment of aggregated data and start as soon as possible the collection and assessment of the information related to each single management procedure thus allowing a time-monitoring process;
- distinguish the administrative extent referring to administrative constraints from technical extent referring to environmental data;
- collect information on contaminants found within the sites;
- monitor the duration of the project phase (from site-specific risk assessment approval to the project approval) and the duration of the intervention phase on the basis of the different administrative procedures (ordinary, simplified) used according to current legislation;
- register and monitor the effectiveness of the remediation technologies applied;
- monitor duration and costs of the interventions carried out;
- collect more detailed information on sites that represent a problem (contaminated sites, sites under interventions) with respect to sites less representative (sites with only notification for a suspect of contamination).

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## **CONTAMINATED SITES IN PILLS**

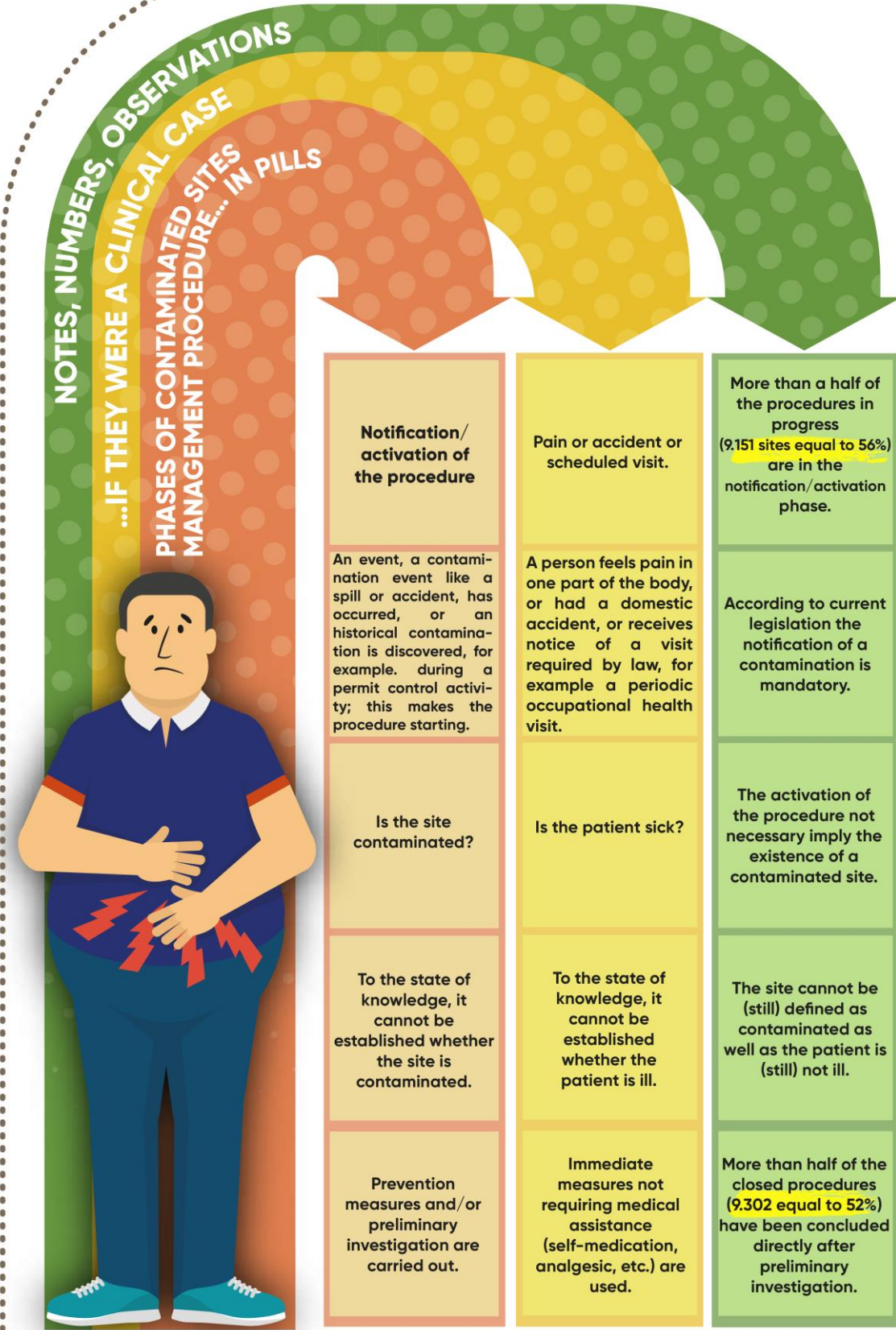
In Italy, the data collection of contamination management procedures defined by the Legislative Decree n.152/06 is applied to define how many contaminated sites are present and what are their characteristics.

All the contamination management steps are registered, but it should be underlined that only a part of the monitored sites results as contaminated, with an unacceptable risk for human health and the environment.

To clarify some of the main concepts included in the Report, the phases of the whole contamination management procedure (from the problem identification to the solutions to solve the problem) proposing in parallel a comparative game between a contaminated site and a person in need of healthcare.

In the following schemes the evolution pathway of a clinical status compared with the progress of a contamination management procedure is proposed.

NOTIFICATION/ACTIVATION OF THE PROCEDURE



MAIN SITE INVESTIGATION

NOTES, NUMBERS, OBSERVATIONS  
 ...IF THEY WERE A CLINICAL CASE

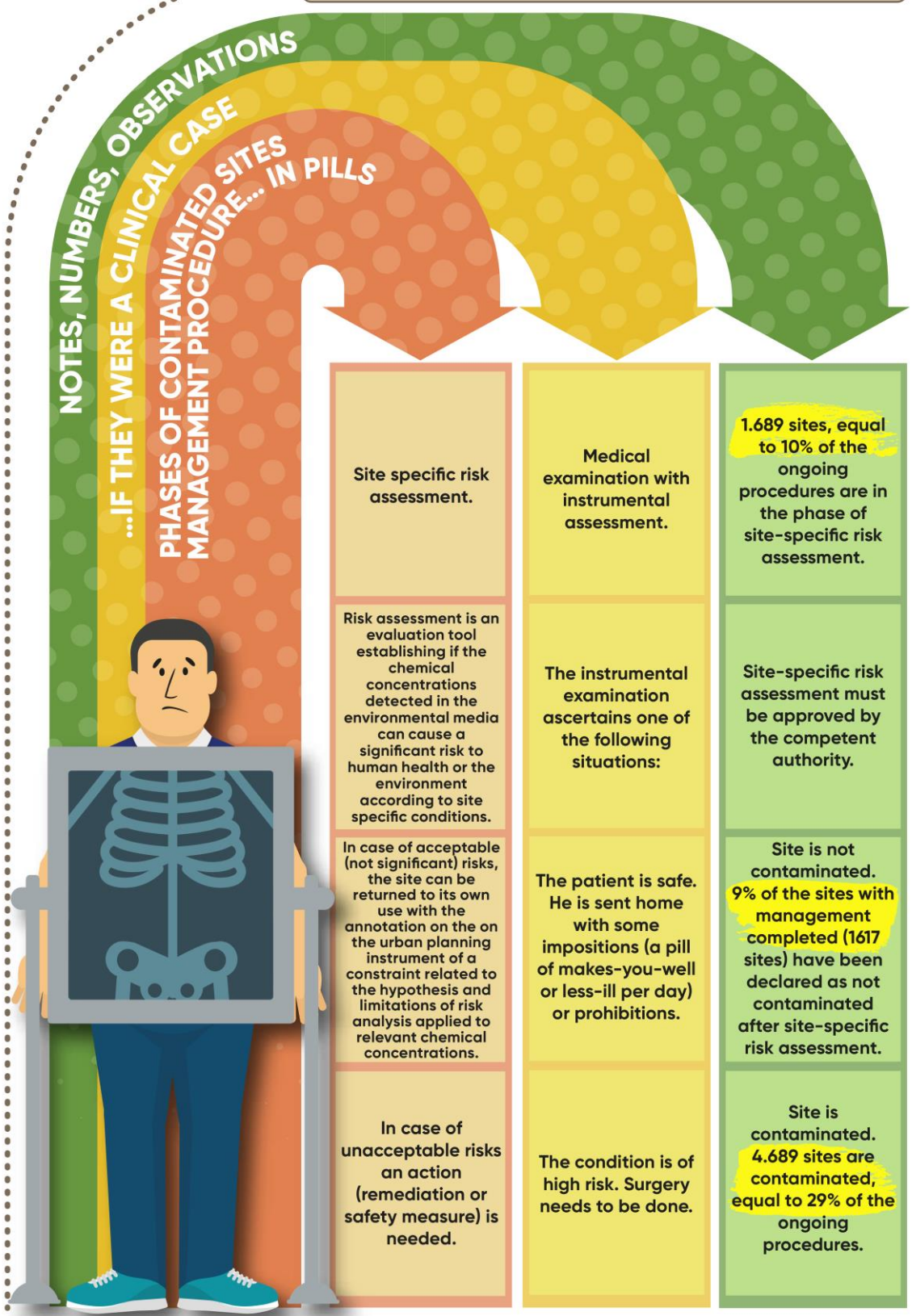
PHASES OF CONTAMINATED SITES  
 MANAGEMENT PROCEDURE... IN PILLS



<p>Main site investigation</p>	<p>Medical examination with diagnostic analyses.</p>	<p>1.708 sites (equal to 11% of the procedures in progress) are in the main site investigation phase.</p>
<p>Main site investigation is a survey of soil, subsoil and groundwater that can identify the following cases:</p>	<p>The patient undergoes a medical examination. Doctors identify the cause of the discomfort and establish one of these three options:</p>	<p>Main site investigation must be approved by the competent authority. Main site investigation is performed by technical experts following the guidelines and under the control of public authorities.</p>
<p>No exceedance of screening values is identified; the site can be returned to its own use.</p>	<p>The patient is not sick, he can return to his everyday life.</p>	<p>The site is not contaminated. 1.306 procedures, equal to 7% of those closed, has been concluded after main site investigation.</p>
<p>Exceedance of screening values is registered; a site-specific risk assessment should be performed to verify if contamination levels cause a significant risk for human health and the environment.</p>	<p>The doctor prescribes an instrumental assessment to quantify the pathology (X-ray, ultrasound, etc.)</p>	<p>The site is potentially contaminated. Potentially contaminated sites are 5.379 and represent the 33% of the ongoing procedures.</p>
<p>Given the exceeding of screening values, the polluter/interested subject can directly propose a remediation intervention if the legal conditions are met.</p>	<p>No further investigations are required. The doctor orders a day hospitalization or surgery.</p>	<p>The site is contaminated. 4.689 sites are contaminated, equal to 29% of the ongoing procedures.</p>



**SITE SPECIFIC RISK ASSESSMENT**



**REMIEDIATIONS / PERMANENT SAFEY MEASURES / OPERATIONAL SAFETY MEASURES**

