

# DOCUMENT

## LIST CODE OF ETHICS

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## 1. Foreword

The European Commission promotes the development and implementation of responsible research and innovation practices with the aim of fostering inclusive and sustainable research and innovation. In their words, *“Responsible Research and Innovation (RRI) implies that societal actors (researchers, citizens, policy makers, business, third sector organizations, etc.) work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of society”*.<sup>1</sup>

One of the key aspects of RRI is ethics. *“In order to adequately respond to societal challenges, research and innovation must respect fundamental rights and the highest ethical standards. Beyond the mandatory legal aspects, this aims to ensure increased societal relevance and acceptability of research and innovation outcomes. **Ethics should not be perceived as a constraint to research and innovation, but rather as a way of ensuring high quality results**”*.<sup>2</sup>

LIST is committed to this approach and hereby presents its **Code of Ethics**, which contains principles guiding the conduct of both its research and innovation activities and its business and administration practices. These principles will be the basis of the assessment of projects, plans and practices in our organization. As such, this Code will be the reference for the work of the LIST Ethics Committee.

The ethical principles for research and innovation activities in this Code are based on the recommendations of the European Committee for Standardization (Comité Européen de Normalisation - CEN), as stated in the “Ethics assessment for research and innovation - Part 1 – Annex A” document<sup>3</sup>. The list of proposed principles has been reviewed, and has been further adapted or developed where necessary to meet LIST’s specific needs.

It is important to note that ethical principles related to the behaviour and practices of individual researchers and the way they treat others are addressed in the “Charte du Chercheur”, part of LIST’s “Règlement d’ordre intérieur” available on the intranet. At LIST, researchers have the responsibility to follow the fundamental ethical principles specific to their research field, as well as all regulations and codes applicable both internally and at the national level, as demonstrated by LIST’s endorsement of the European Code of Conduct for Research Integrity<sup>4</sup>. The assessment of the individual behaviour and misconduct of employees is not the responsibility of the LIST Ethics Committee; although it may intervene by providing advises to managers for the analysis of internal misconduct cases, it does so from an advisory perspective only.

<sup>1</sup> Source: <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation>

<sup>2</sup> Source: [https://ec.europa.eu/research/swafs/pdf/pub\\_public\\_engagement/responsible-research-and-innovation-leaflet\\_en.pdf#view=fit&pagemode=none](https://ec.europa.eu/research/swafs/pdf/pub_public_engagement/responsible-research-and-innovation-leaflet_en.pdf#view=fit&pagemode=none)

<sup>3</sup> CEN WORKSHOP AGREEMENT, CWA 17145-1, May 2017. ICS 03.100.02; 03.100.40. Ethics assessment for research and innovation - Part 1: Ethics committee.

<sup>4</sup> European Science Foundation (ESF) and All European Academics (ALLEA). The European Code of Conduct for Research Integrity, Revised edition, 2017.

## 2. LIST values

Our values guide our behaviour and actions. They are the basis of our decisions and choices, and they affect the way we do our work and the way in which we approach our tasks or duties.

### ➤ Focus on people

We make the respect, protection and fair treatment of all people fundamental conditions of our work, and we apply this principle to everything we do. We respect the dignity of each individual by recognizing their autonomy, freedom and their right and ability to make their own decisions. We are committed to building an inclusive and diverse workplace welcoming to people of all backgrounds.

Furthermore, our employees, partners, external clients, and any other individuals that might be involved in our research and innovation activities, are protected by high safety standards.

### ➤ Excellence in all we do

Our aim is to provide innovations that are useful and beneficial for society, the economy and the environment by excelling in everything that we do. For us to achieve this, everyone has a role to play, from our researchers to our support teams.

### ➤ Passion for impact & commitment to our stakeholders

LIST develops innovative and competitive solutions to meet the key needs of its stakeholders and of society as a whole. We strive to understand the needs of our partners and propose innovation with substantial added value. We work to provide solutions that have a meaningful impact and benefit society and quality of life in general.

### ➤ Responsible and independent research

LIST carries out responsible, inclusive and sustainable research and innovation. We anticipate and assess the potential implications and impact of our research and innovation activities. To this end, we involve our stakeholders and work together to better align both the research process and its results with the values, ethical principles, needs and expectations of society. We protect the independence of our research and innovation. Even when the objective of the research may be agreed with our research partners, we keep our independence in the design, planning, conduct, analysis, and transparency to communicate results.

### ➤ Sustainable by design

LIST is committed to sustainable and responsible development. We work to provide solutions that will have a relevant and positive impact on society, the economy and the environment, thus contributing to developing a better and sustainable future for future generations.

We also work to minimize the environmental impact of our activities and to improve LIST's ecological footprint by analysing the environmental impact of our own operations and defining actions accordingly. This is a voluntary approach, the adoption of which we believe is essential for us to play our part and help pave the way towards a sustainable future.

In this document, LIST values are explained from the following ethical perspectives presented in the different chapters of this Code: research integrity, social responsibility, respect for people and the environment, dissemination of research results, dual use of research results, and conflicts of interest.

### 3. Legal and regulatory framework

LIST complies with all laws and regulations applicable to the performance of research and all its related activities. Therefore, this code does not affect any legal obligation that may be applicable and should be read in conjunction with the other internal policies of LIST.

In drawing up this policy, LIST considered several internal and external legal and regulatory frameworks, among which:

- Article 15(2) “Loi du 3 décembre 2014”<sup>5</sup>;
- LIST “Règlement d’ordre intérieur”,<sup>6</sup> ; and
- “European Charter for Researchers”<sup>7</sup>.

Furthermore, some research follows specific national regulations such as:

- the involvement of human subjects, in which case research must be performed in accordance with the applicable legislation, namely the “Code de la santé”<sup>8</sup> and following the recommendations of the Comité National d’Ethique de Recherche (CNER);
- the involvement of animals, in which case research must be performed in accordance with the applicable legislation, namely the “Loi du 27 juin 2018 sur la protection des animaux”<sup>9</sup> and the “règlement grand-ducal du 11 janvier 2013 relatif à la protection des animaux utilisés à des fins scientifiques”<sup>10</sup>;
- the collection and processing of personal data, which must be performed in accordance with the applicable legislation, namely the “Act of 1 August 2018”; and
- the Law of February 27, 2015<sup>11</sup> approving the Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising out of their Utilization related to the Convention on Biological Diversity, concluded in Nagoya on October 29, 2010 (the ‘Nagoya Protocol’).

### 4. Scope of application

The LIST Code of Ethics establishes **ethical principles for the conduct of research and innovation activities (section 5) and our business and administration practices (section 6)**. It will be the basis for the assessment of LIST’s activities. The objects for assessment can be, but are not limited to;

- guidelines, tools and principles for ethics assessments of research & innovation;
- research and innovation objectives and plans, new directions, new fields;
- research and innovation proposals;
- projects and service activities;
- practices and processes;
- products and technologies;
- protocols and methodologies;
- publications and dissemination of results,
- valorization and transfer of research and innovation results.

<sup>5</sup> <http://legilux.public.lu/eli/etat/leg/loi/2014/12/03/n2/jo>

<sup>6</sup> [https://intranet.private.list.lu/fileadmin/files/5\\_Documentation/Admin\\_support/ROI\\_du\\_LIST.pdf](https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/ROI_du_LIST.pdf)

<sup>7</sup> [https://www.euraxess.lu/sites/default/files/am509774cee\\_en\\_e4.pdf](https://www.euraxess.lu/sites/default/files/am509774cee_en_e4.pdf)

<sup>8</sup> <http://legilux.public.lu/eli/etat/leg/code/sante/20210201>

<sup>9</sup> <http://legilux.public.lu/eli/etat/leg/loi/2018/06/27/a537/jo>

<sup>10</sup> <http://legilux.public.lu/eli/etat/leg/rqd/2013/01/11/n2/jo>

<sup>11</sup> <http://legilux.public.lu/eli/etat/leg/loi/2015/02/27/n3/jo>

This Code will serve as the reference for the LIST Ethics Committee evaluations, assessments and recommendations.

LIST employees, interns and scientific visitors must respect the rules of the LIST Code of Ethics.

Some principles may be or might appear to be in conflict. If such a case arises, clarification about the hierarchy of principles should be asked to the ethics committee that may require support from the legal service.

### ***Dealing with external ethical codes***

If LIST is involved in a research and innovation activity with external partners who have different ethical rules to LIST, then the LIST Ethics Committee should be consulted to provide advice and judgement.

Ethical approval granted by an external institution does not replace the LIST Ethics Committee's approval, unless approval has been given by Luxembourg national committees, whose decisions must be accepted.

LIST will consider and comply with all regulations and coordinate with the relevant national and international bodies related to ethics.

### ***Conflicts between the LIST Code of Ethics and the individual values of an employee***

If the personal values of a LIST employee conflict with the LIST Code of Ethics, the LIST Code of Ethics prevails.

If an employee's system of values is more restrictive than the LIST Code of Ethics, meaning that this employee is imposing stricter ethical rules on him/herself than those required by LIST, the system of values of the employee does not, either by default or automatically, supersede the LIST Code of Ethics. However, each case should be considered and debated in a respectful manner by the LIST Ethics Committee. The values of the Code of Ethics should be applied to find an appropriate solution considering the interests of LIST and the respect due to the employee.

## **5. Ethical principles for the conduct of research and innovation**

### **5.1 Research integrity**

Research integrity, or scientific integrity, concerns the behaviour and conduct of researchers. The assessment of the individual behaviour and misconduct of researchers is not the responsibility of the LIST Ethics Committee. It is, nevertheless, in the interest of research ethics that ethics committee members and researchers are aware of the core principles of research integrity. Thus, LIST has adhered to the European Code of Conduct for Research Integrity<sup>12</sup> and is committed to communicating and applying it within the organization.

At an organizational level, we have the responsibility to respect the following principles in our research and innovation activities:

- 1) We employ and apply appropriate research methods and take responsibility for the trustworthiness of our results.
- 2) We avoid unintentional bias in the selection of research methods and analysis of research data.
- 3) We avoid the manipulation of research instrumentation, materials or processes and the omission or distortion of research data.
- 4) We clearly document our experimental protocols so that results obtained can be traced back.
- 5) We do not include additional data, observations or characterizations with the intention of modifying research results.

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<sup>12</sup> European Science Foundation (ESF) and All European Academics (ALLEA). The European Code of Conduct for Research Integrity, Revised edition, 2017

- 6) We are autonomous to conduct research, obtain and interpret data, and report the results of our work, and keep our critical thinking free from ideological bias and political or economic pressures.
- 7) We avoid conflicts of interest, and comply with LIST's internal policies, in particular, we disclose conflicts of interest that could compromise the trustworthiness of our work in research proposals, publications, public communications or review activities.
- 8) We provide accurate authorship credit, avoid representing the work of others as our own and cite all sources and contributions.
- 9) We avoid misrepresenting our qualifications, experience or research accomplishments.
- 10) We respond to and report irresponsible research practices by others.
- 11) We are honest regarding our own actions and those of others, throughout the whole research process, and we are accountable for our work and actions.

## 5.2 Social responsibility

*"Social responsibility suggests that an individual has an obligation to work and cooperate with other individuals and organizations for the benefit of society at large."<sup>13</sup>*

### **General considerations**

- 12) We anticipate and consider the potential consequences of research and innovation for society, including plausible future uses and applications of the results of research, and we take appropriate remedial action to address any negative impact, if such an action seems justified.
- 13) We consider whether and how a research or innovation activity could positively or negatively contribute to the interests, rights and well-being of individuals or groups and the common good, and whether or how it is compatible with sustainable development and environmental sustainability.
- 14) We avoid the misuse of materials, methods, technologies and any research or innovation results on alternative unethical or ethically questionable purposes that could harm individuals, animals, society and/or the environment.
- 15) We consider the concerns of stakeholders when planning and conducting research and take special care to communicate research results and their potential significant consequences to stakeholders to ensure their proper interpretation. This applies specifically to research and innovation projects with significant potential consequences for society and/or the environment.

### **Environmental responsibility**

- 16) We are conscious of, and engaged with, any (local) societal concerns and interests regarding the ways in which technology could affect the (urbanized or natural) environment, including the analysis of the possible unforeseen or long-term environmental effects of the technology.
- 17) We strive for effective and cost-efficient resource use (including raw materials and energy), resource recovery (recycling), and for the reduction of the production of environmentally harmful waste and of environmental pollution and its impact on ecosystems and biodiversity.
- 18) We take responsibility to search for technological solutions that reduce the potential consumption of raw materials, energy and the production of environmentally harmful waste and lessen environmental pollution, and its impact on ecosystems and biodiversity.
- 19) We promote a clear understanding of the actions required to restore the environment if it is disturbed as a result of the technology.

### **Respect of freedom of expression:**

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<sup>13</sup> Source: [https://en.wikipedia.org/wiki/Social\\_responsibility](https://en.wikipedia.org/wiki/Social_responsibility)

- 20) We ensure that new research concepts and innovations do not pose unjustified inherent risks to the freedom of individuals to express themselves through the publication and dissemination of information, or to their freedom of access to information.
- 21) If research or innovation involves the use of censorship methods, we strike an appropriate balance between the need for content control and the right of individuals to express themselves freely.

***Respect of intellectual property:***

- 22) We respect the intellectual property rights of our partners, clients and third parties.

***Respect of other individual rights and liberties:***

- 23) We ensure that new research concepts, technology and innovations do not pose inherent risks to individual freedom, autonomy, authenticity or identity; or to individual privacy, human dignity, or human physical integrity. In particular, we ensure that information systems do not unnecessarily or unjustifiably take away control from users by limiting their choices or making choices for them that they would prefer to make themselves.
- 24) We ensure that decisions made by information systems that have a significant social impact take into account the rights, values and interests of stakeholders, including users, and make efforts to ensure that the reasons for decisions made by information systems can be retrieved, in order to make the systems accountable.
- 25) We consider the issue of how responsibilities and liabilities are assigned between humans and machines when information systems are involved in decision-making.

***Respect of justice and equality:***

- 26) We consider how new research concepts and innovations could widen or narrow social inequalities in terms of the distribution of opportunities, powers and capabilities, civil and political rights, economic resources, income, risks or hazards.
- 27) We consider how new research concepts, technology and innovations could harbour or counter unjust bias or negative effects and contribute to the reduction of stigmatization or discrimination in terms of age, gender, sexual orientation, social class, race, ethnicity, religion or disability.
- 28) We consider how technology could widen or help narrow social inequalities in terms of the distribution of opportunities, powers and capabilities, civil and political rights, economic resources, income, risks or hazards.
- 29) We consider how new research concepts and innovations could harm or promote the interests of vulnerable, disadvantaged, or underrepresented groups and communities in society, including those in low income and lower-middle income countries.

***Gender sensitive research:***

- 30) We commit to perform gender-sensitive research considering the differences between genders in all aspects and phases of the research. In research projects that seem gender-neutral, social implications are considered to avoid possible gender biases, especially if the outputs will potentially be used to guide human-decision making.<sup>14</sup> The gender-sensitive approach also considers, among others, transgender and transsexual populations.

***Promotion of well-being and the common good:***

- 31) We consider how research, technology or innovation could harm or benefit the general well-being of individuals, groups in society and future generations (e.g. effects on quality of work or quality of life).

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<sup>14</sup> For more information regarding gender sensitive approach in research, see: [GENDERED INNOVATIONS 2: How Inclusive Analysis Contributes to Research and Innovation European Commission / Directorate-General for Research and Innovation.](#)

- 32) We consider how research or innovation activities could harm or promote the social skills and behaviour of individuals, and how it could harm or promote the learning or exercising of important virtues, such as patience and empathy.
- 33) We consider whether and how research, technology or innovation activities could harm or promote important social institutions and structures, democracy and important aspects of culture and cultural diversity.

## 5.3 Protection of and respect for human research participants

LIST applies national and European ethics guidelines and legislation related to the participation of human beings in research when ethical concerns are raised. At the national level, LIST takes the recommendations of the Comité National d'Ethique de Recherche (CNER) as its reference.

- 34) We ensure that research participants are provided with adequate information about the research, including its purpose, its funder(s), who will use its results, possible risks and the consequences for them of participation in it, as well as policies regarding privacy and confidentiality.
- 35) We obtain informed, free and voluntary ethical consent from research participants provided in an explicit form (informed consent). Exceptions are considered only in cases where the research cannot be effective if the participants are formally notified in advance of the topic of the research.
- 36) We treat human participants with due consideration for their rights, dignity, autonomy, safety and personal integrity. We respect the values and views of research participants, including those that deviate from those generally accepted by society.
- 37) We ensure that research participants are not exposed to serious physical or psychological harm or strain as a result of the research.
- 38) We ensure that any risks or burdens to research participants are balanced by benefits to the participants or to society.
- 39) We consider the impact any publication of research results may have on participants under investigation, as well as on the groups they represent, their relatives, and others involved in the research.
- 40) We respect cultural diversity and pluralism, meaning that the cultural background, values and viewpoints of research participants are respected, as well as the cultural values and norms that apply in research settings.
- 41) We ensure that our pool of human research participants adequately represents society, or the social group being investigated, with respect to categories such as gender, age, race, ethnicity, social class, religion, culture and disability, or discuss and, where possible, compensate for limitations in our selection.

### 5.3.1 Special provisions for the protection of children, mentally disabled persons and other vulnerable groups<sup>15</sup>

- 42) We only carry out research with children or other persons unable to give consent if there are no acceptable alternatives, if the risks and burdens to participants are minimal, and if substantial benefits will accrue to the participants or the group represented by the participants.
- 43) If the participant is a child, we obtain informed ethical consent from the parent(s) or legally authorized representative(s) and obtain assent from the child if possible.
- 44) We consider cultural differences when approaching potential participants for informed ethical consent and seek alternatives to written and signed ethical consent when such consent is culturally foreign to participants.

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<sup>15</sup> Vulnerable people include, among others, children, persons unable to give informed consent, people with mental or physical disabilities, pregnant women, senior citizens, residents of retirement and assisted-living facilities, patients with incurable diseases, people with addictions and problematic substance use, persons with a low income (including the homeless and people receiving welfare or social assistance), the unemployed, prisoners, first-generation immigrants, members of groups that face discrimination, persecution and exclusion, and persons in low or lower-middle income countries.

- 45) If the participant is an adult who is judged as lacking the mental capacity to give consent, we obtain informed ethical consent from the legally authorized representative, and assent from the participant if possible.
- 46) We ensure that inducements, rewards or compensation for participating in the research do not threaten or challenge the ability of participants to give genuine informed consent.
- 47) We take special care in all aspects of research where vulnerable individuals or groups are involved.

#### 5.3.2 Special provisions for the protection of individuals not directly participating in the research

- 48) When conducting research on public individuals, communities, and organizations who are not directly participating in the research, we strike an appropriate balance between the effects of the research on their reputations and privacy and the societal benefit of such research.

## 5.4 Protection and respect for life

In the context of the protection of life, we address *animals* as vertebrates and cephalopods as defined by international regulations for animal experiments, and any other invertebrate animal we address as *organisms*. Organisms are not covered by international regulations.

#### 5.4.1 Consideration of concerns about naturalness and the commodification of life

- 49) We consider concerns about naturalness in relation to research into animal breeding, cloning and (genetic) modification, as well as in relation to the release in the environment of genetically modified organisms (including plants).
- 50) We consider concerns about the commodification of life in relation to genetic patenting and research into animal breeding, cloning and (genetic) modification as well as about the release in the environment of genetically modified organisms (including plants).

#### 5.4.2 Respect for life (three Rs – Replacement, Reduction, Refinement)

- 51) We consider all possibilities for replacing animal experiments with research methods that are less harmful to animals.
- 52) We make efforts to minimize the number of animals involved in experiments.
- 53) We minimize the suffering of animals during the experiment and in the context of animal keeping and breeding.

#### 5.4.3 Respect for the welfare of animals

- 54) We ensure that the potential benefits of animal experiments outweigh the (potential) harm caused to the animals involved.
- 55) We respect the characteristics, needs and behaviours of the animal species involved in experiments and provide reasonable accommodation according to the species-specific characteristics.
- 56) We only use animals bred to have genetic diseases and defects or behavioural disorders if their use is deemed essential following a careful ethical balancing.
- 57) We only use animals captured in the wild or animals from species that live in the wild if their use is deemed necessary following a careful ethical balancing and after having obtained the necessary authorizations.
- 58) We ensure that the technology does not pose any unnecessary risks of harm to animals.

#### 5.4.4 Special provisions for the protection of non-human primates and wild animals and species

59) We do not use non-human primates in research.

### 5.5 Protection and management of data

#### 5.5.1 Protection of personal data and privacy

60) We ensure that all personal data researchers plan to process is performed in accordance with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and the free movement of such data (the “GDPR”), the Act of 1 August 2018 and the policies and procedures applicable at LIST.

#### 5.5.2 Management of data and open data

61) We store all research data securely and render them difficult to access or hard to use for unwanted third parties.

62) We are aware of all actual and potential data flows.

63) We do our best to guarantee that the research data produced will be locatable by and accessible to other researchers, interoperable with other data and tools, and reusable in future research.

### 5.6 Protection of researchers and the research environment

64) We take special precautions to ensure that researchers and staff involved in conducting research or innovation activities are not exposed to serious risk of physical or psychological harm or strain as a result of the research or of working with harmful biological, chemical, radiological, nuclear, or explosive materials among others.

65) We take special precautions to prevent or counter the effects of potential misuse of security-sensitive chemical, radiological, or nuclear materials and knowledge (e.g. the appointment of a security advisor, limiting dissemination, classification, training for staff).

66) We take special precautions regarding the health and safety of researchers and staff if research is conducted in low income or lower-middle income countries.

67) We take special precautions to minimize/avoid harm to the local community and environment (including animals, plants and natural and cultural heritage) caused by any field work or experiments or by the use of harmful biological, chemical, radiological, nuclear, or explosive materials, among others, during research, and ensure that any harm done can be justified by the (potential) benefits of the research or innovation.

### 5.7 Dissemination of research and results

68) We strive to comply with all the requirements of funding authorities and publishers.

69) Wherever possible, we strive towards open access publications, which provide free online access to any user.

70) Where possible, we disseminate results to different audiences that may have an interest in them, using different formats and media, ensuring openness regarding research findings, ensuring verifiability, returning benefits to research participants, providing benefits to society and ensuring a dialogue with fellow researchers. We aim to include the general public, if results may be of interest to them, and aim to include regions that are otherwise excluded for reasons of economic disadvantage.

## 5.8 Dual use of research and innovations

In Article 2 of the Council Regulation (EC) No 428/2009<sup>16</sup> 'dual-use items' are defined as "items, including software and technology, which can be used for both civil and military purposes (...)".

- 71) We conduct research and innovation that may have applications for peaceful purposes.
- 72) We avoid applications that have the intentional purpose of harming people or that contribute to the proliferation of weapons.
- 73) We do not engage in research and innovation with the intention to the development of, e.g., active weapons or related systems.
- 74) We can contribute to national effort to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards where Luxembourg's interests, aspirations, and ways of life can thrive.
- 75) For projects involving dual-use technologies, we conduct a thorough assessment of the potential applications, this includes:
  - Item screening: to answer to the question whether the scientific output pertains to 1 of the 10 categories<sup>17</sup> of the dual-use control list (Annex I of EU export control Regulation No 428/2009).
  - Trajectory screening, to examine whether the country of destination and the country of end use are subject to an embargo or sanction.
  - End-use and end-user screening: information is provided, through public sources, about who the customer is, what they do and what the items will be used for.

## 5.9 Avoidance of risks

### 5.9.1 Additional provisions in the computer and information sciences

- 76) We ensure that new research concepts and innovations offer reasonable protection against any potential unauthorized disclosure, manipulation or deletion of information and against potential denial of service attacks, e.g. protection against hacking, cracking, cyber vandalism, software piracy, computer fraud, ransom attacks, disruption of service.
- 77) We ensure that new research concepts and innovations, by themselves or through their use in a system, do not pose inherent direct or long-term risks of harm to public health and safety, e.g. ICT innovations used in healthcare, ICT innovations used in the monitoring and control of public infrastructure, and ICT innovations that could lead to addiction.
- 78) We ensure that the technology that is developed, in terms of both the production and the societal use of any goods based on it, does not pose inherent direct or long-term risks of harm to public health and safety.
- 79) We do not engage in research that involves attempts to make unauthorized access to telephone systems, computer networks, databases or other forms of ICT; such research is illegal and unethical, regardless of motivation.
- 80) We treat with extreme caution the dissemination of research involving the identification of undiscovered security weaknesses in existing systems.

<sup>16</sup> COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32009R0428>

<sup>17</sup> ANNEX I - LIST OF DUAL-USE ITEMS

Category 0 - Nuclear materials, facilities and equipment

Category 1 - Special materials and related equipment

Category 2 - Materials Processing

Category 3 - Electronics

Category 4 - Computers

Category 5 - Telecommunications and "information security"

Category 6 - Sensors and lasers

Category 7 - Navigation and avionics

Category 8 - Marine

Category 9 - Aerospace and Propulsion

- 81) We avoid practical experiments with computer viruses or perform them in a controlled environment, and exercise extreme caution in the dissemination of the results of paper-based (theoretical) computer virus experiments.
- 82) We carry out any experiments in breach security on designated, standalone (offline) computers or on designated isolated networks of computers.

## 6. Ethical principles for the conduct of business and administration activities

### 6.1 Business integrity

LIST commits to high standards in terms of Business Integrity. We promote and apply our values in our relationships towards our stakeholders (research partners, consultancy, lobbying services agencies, suppliers, and subcontractors, etc.), and colleagues.

- 83) We establish and maintain fair, responsible, transparent, and respectful relationships with our research and innovation partners, our customers, our suppliers, and any other stakeholder we are collaborating with.
- 84) We ensure that we take into account the stakeholders' interest and their legitimate requests that we will respond quickly and appropriately. If we face issues in the relationships with our stakeholders, we do our best to find a suitable solution for the parties involved.
- 85) With stakeholders, we strive to fulfil our duties and responsibilities without compromising our values and ethical principles. In projects with partners, LIST makes its best to identify, analyse and address ethical, environmental, legal or other risks arising out of potential alternate use of LIST technologies where the end use of the technology can deviate from what is originally intended.
- 86) We are an independent organization engaged in fair competition with its competitors, in particular about how we engage, negotiate and communicate with our stakeholders.
- 87) We are careful and reliable in the way we conduct our administration, documentation and reporting in a controlled and optimal manner, in accordance with legislation and regulations. We make sure that economic and non-economic activities are separated in a transparent manner.
- 88) We are impartial when dealing with external partners, LIST spin-offs and other stakeholders.
- 89) We make our collaboration with partners public and transparent. Therefore, by default, we do not hide collaborations with private companies, research organization, public authorities or any other type of partner including lobbyists. Keeping secret the fact that LIST is collaborating with a partner is possible in duly motivated situations.
- 90) We manage assets and data from our stakeholders in a responsible way. We put appropriate security measures in place to preserve their confidentiality, integrity, and availability. If, despite this, these assets, materials, or data are impacted by a security incident, we initiate a security incident process that includes communication steps to responsible bodies. We handle with due care all types of confidential information.

### 6.2 External communication and “devoir de réserve”

- 91) As LIST ambassadors, we pay attention when we communicate externally to not damage the LIST image, the reputation of colleagues and of our stakeholders.
- 92) Contacts with the media about potentially sensitive issues must first be discussed with the line-manager and the Communications department.
- 93) We ensure that, in the event of a potential conflict between different roles, it is clear whether a person is speaking as a LIST employee or in a different capacity.

- 94) Due to the speed of information spread and impact of social media, we pay a special attention to our communication to avoid unwanted consequences that may damage LIST image.

### 6.3 Speaking up and “whistleblowing”

- 95) We report any suspected case of misconduct or breach of our ethical principles according to our policies and procedures.
- 96) Speaking up and giving early alert in good faith will not lead to negative consequences for the “whistleblower”. We are committed to protect them and we do not accept retaliation of any kind nor at any level.
- 97) Suspected cases of misconduct or breach of our ethical principles are investigated in a fair and comprehensive manner, without compromising accuracy, objectivity, confidentiality, or thoroughness. We ensure that investigations are carried through to a conclusion.

### 6.4 Conflicts of interest, corruption, and bribery

- 98) We strive to avoid conflict of interest in all our dealings. All efforts must be made to prevent any conflict of interest between private interests (personal/friends/family members), and those of LIST, its partners or its clients and manage them in full transparency.
- 99) Offering or receiving gifts and invitations should be considered with care to avoid undue influence or expectations. The value of any gifts received as money or in-kind should not exceed what is established in the LIST Conflict of Interest policy.
- 100) We do not indulge in any form of corruption, or fraud. We do not claim, approve, or accept any financial or other benefits/rewards that could affect our judgement, or ability to carry out our duties objectively, and impartially. We do not exchange goods or services on a professional basis for personal gain.
- 101) We do not indulge in personal relationships at work in any manner that could lead to conflict of interest situations. However, we acknowledge that private relationships may emerge within colleagues leading to potential, perceived or actual conflict of interest. In such cases, the concerned employee should declare their relationship to the Human Resources Dept. as per the LIST conflict of interest policy.
- 102) We acknowledge the importance for the LIST employees to participate to business and scientific events. However, during engagement in such events, we pay attention to avoid situations that could damage the image of LIST or could affect our independence, like for instance receiving personal gifts beyond acceptable usual hospitality or, free invitations to unusual social events not linked to the business or scientific event itself.

### 6.5 Conscientious use of public funds

- 103) As a public research organization, LIST receives public funds to operate and must strictly avoid any misuse of them. Collaboration contracts are drafted on this principle in accordance with existing policies and laws. In this context, no LIST partner shall receive any undue benefit from LIST.
- 104) We exercise all care to assure responsible and secure handling of data, infrastructure and equipment, IP, and other resources at our disposal.

### 6.6 Respectful, inclusive, and diverse working environment

- 105) We aim to create an inclusive and tolerant work environment that is based on mutual respect, honesty, and fairness, where our employees can focus on their duties and responsibilities without fear, obtain fulfilment and develop. We strive to keep our organization free from all forms of discrimination, harassment, bullying or any threatening behaviour.
- 106) We value and welcome the diversity and as an inclusive workplace our employees are encouraged to bring their authentic whole selves to LIST and create an enriching work environment together.

## 6.7 Equity, Equality, and fair opportunities

- 107) We are committed to making LIST a place where everyone has access to the same opportunities of development, recognition, and benefits for work-life balance, under fair and transparent processes.
- 108) Our policies and practices aim at promoting an environment that is free from all forms of unfair discrimination, whether it is favourable or unfavourable treatment (direct discrimination) or conditions that cannot be justified (indirect discrimination) on the grounds of age, sex/gender, race, ethnicity, religion or belief, disability, sexual orientation, personal or professional background or any other real or perceived individual or group characteristics.
- 109) Conscious & unconscious biases in the workplace are a barrier to equality and fairness, and counterproductive to the success and excellence of research and innovation. We strive to actively address and discourage them at LIST.

## 6.8 Health, Safety, Security, Environment and Sustainability

- 110) At LIST, we are committed to conducting our activities keeping and protecting our employees' physical and psychological health, safety, and security. Our aim is not to have any accident or incident that could endanger our safety or safety of our co-workers.
- 111) We strive to integrate environmental and social criteria in decision making, and we take measures to reduce the negative impacts of our operations on the environment and the society. We make the best use of our skills, competences, and responsibilities to support the organization to become an environmentally and socially responsible RTO.

## 7. Terms and definitions

Term	Definition
Accident and incident	<p>Accident: sudden event resulting in the injury of one or more persons as part of their work.</p> <p>Incident: Sudden and undesired event that jeopardizes the physical safety of one or more persons and/or leads to material damage, but which does not result in the injury of one or more persons.</p> <p>[SOURCE: Accident and incident management procedure - LIST_PRO-09]</p>
Conflict of interest	<p>Set of conditions in which professional judgement concerning a primary interest (e.g., a patient's welfare or the validity of research) tends to be unduly influenced by a secondary interest (e.g., financial gain).</p> <p>[SOURCE: Thompson, 1993]</p>
Dual use	<p>Research or innovation that is developed to provide benefits but can be misapplied to do harm, for example for a military or malicious purpose.</p> <p>[SOURCE: adapted from WHO, <a href="http://www.who.int/csr/durc/en/">http://www.who.int/csr/durc/en/</a>]</p>
Ethical principles	<p>General principles that may be relevant for making ethical evaluations.</p>
Ethics	<p>Moral principles that govern a person's behaviour or the conducting of an activity; the branch of knowledge that deals with moral principles.</p>
Ethics assessment	<p>Institutionalized assessment, evaluation, review, appraisal or valuation of plans, practices, products and uses of research and innovation that makes use of ethical principles or criteria.</p> <p>[SOURCE: SATORI D1.1, 2015]</p>
Ethics committee	<p>Institution, committee, board or officer that performs ethics assessments.</p> <p>Ethics committees may assess research or innovation goals, new directions, projects, practices, products, protocols, new fields, etc. and their work may be undertaken before, during and after the implementation of the projects they assess.</p> <p>Ethics committees may also be known as Ethics Review Boards, Ethics Assessment Units, Ethics Boards or other terms.</p> <p>[SOURCE: adapted from SATORI D 1.1, 2015]</p>
Human participants	<p>Living human beings about whom a researcher obtains data through intervention or (indirect) interaction with the individual or from individually identifiable information.</p> <p>Persons may also become human participants through the use of their tissue.</p>
Informed consent	<p>Written, dated and signed decision to be a research participant, given freely after being duly informed of the nature, significance, implications and risks of the research. Informed consent must be appropriately documented, by any person capable of giving consent or, where the person is not capable of giving consent, by his or her legal representative.</p> <p>The above definition is in line with that in Directive 2001/20/EC relating to the implementation of good clinical practice in the conduct of clinical trials on medicinal products for human use. The principle of 'informed and free decision' remains valid for any other kind of research.</p> <p>If the person concerned is unable to write, oral consent in the presence of at least one witness may be given in exceptional cases, as provided for in national legislation.</p>
Innovation	<p>Development, based on new ideas or inventions, of new products, services, processes and methods.</p> <p>[SOURCE: adapted from Shelley-Egan et al., 2015. SATORI D 1.1]</p>
Justice	<p>Principle of equal rights of all persons, both participants and researchers, involved in or impacted by research.</p> <p>Any inequality arising from research practices is designed to bring about the greatest benefit for the least advantaged.</p> <p>[SOURCE: adapted from Rawls, 1971]</p>
Lay person	<p>Person without relevant professional expertise, in order to better reflect the social and cultural diversity of society.</p> <p>This term is used with reference to a member of an ethics committee.</p>

Openness	Principle of willingness to consider new ideas in the research field and of sharing data, resources and procedures.
Personal data	Information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular, with reference to an identifier such as a name, an identification number, location data, an online identifier or by one or more factors specific to the physical, physiological, genetic, mental, economic, cultural, or social identity of that natural person. [SOURCE: art. 4(1) 679/2016 General Data Protection Regulation]
Precaution	Principle of methodologically considering the likelihood of benefits and harms from new technologies and for revising their development if the risk of damage is significant.
Professional conduct	Principle of respecting fellow researchers and treating them fairly, rejecting discrimination, assisting in educating and mentoring junior researchers, giving proper credit for research conducted and upholding the standards of research conducted, upholding the standards of the profession and following the guidelines of professional conduct.
Professional principles or code of conduct	Agreed and established norms of behaviour; set of rules and responsibilities of, or proper practices applicable to, an individual, group or organization.
Research	Form of systematic inquiry that aims to contribute to a body of knowledge or theory.
Research ethics	Moral principles guiding research from its inception through to the completion and publication of results and beyond.
Research Ethics Committee REC	Group of people formally appointed to review research proposals or initiatives to assess if the research is ethical. The independence of a REC is founded on its membership, on strict rules regarding conflict of interest, and on the regular monitoring of and accountability for its decisions.
Research practice	Practices of systematic, methodical creation of new knowledge or the use of existing knowledge in a new and creative way so as to generate new concepts, methods or understanding.
Responsible research and innovation RRI	Transparent, interactive process by which societal actors and innovators become mutually responsible to each other with a view to the acceptability, sustainability and societal desirability of the innovation process and its marketable products, in order to allow a proper embedding of scientific and technological advances in society.
Scientific integrity	Principle of carrying out research practices in an honest, objective, impartial, independent, responsible, and fair way.
Social responsibility	Responsibility to consider the societal impacts of research and innovation and to take steps to minimize anticipated harm and maximize benefits. These impacts include, among other things, socio-economic impacts, environmental impacts, impacts on health, safety, human rights, civil liberties, etc.
Sustainability	Principle of responsible care and use of economic, social, institutional and environmental resources so that they are preserved for future generations. Environmental sustainability concerns more specifically the preservation of environmental resources and biodiversity.

## 8. Internal and external related sources

Document	Title
External	Ethics assessment for research and innovation - Part 1: Ethics committee. CEN WORKSHOP AGREEMENT, CWA 17145-1, May 2017. ICS 03.100.02; 03.100.40. <a href="https://ftp.cencenelec.eu/EN/ResearchInnovation/CWA/CWA1714501.pdf">https://ftp.cencenelec.eu/EN/ResearchInnovation/CWA/CWA1714501.pdf</a>
External	The European Code of Conduct for Research Integrity, Revised edition, 2017. European Science Foundation (ESF) and All European Academics (ALLEA). <a href="https://allea.org/code-of-conduct/">https://allea.org/code-of-conduct/</a>

External	SATORI project deliverables. <a href="http://satoriproject.eu/media/D3.3_legal_aspects_globalisation.pdf">http://satoriproject.eu/media/D3.3_legal_aspects_globalisation.pdf</a> and <a href="http://satoriproject.eu/media/3.4.Responsible-and-Ethical-Governance-of-Research-and-Innovation-in-the-Context-of-Globalization.pdf">http://satoriproject.eu/media/3.4.Responsible-and-Ethical-Governance-of-Research-and-Innovation-in-the-Context-of-Globalization.pdf</a>
External	SINGAPORE STATEMENT ON RESEARCH INTEGRITY. 2010. <a href="https://wcrif.org/guidance/singapore-statement">https://wcrif.org/guidance/singapore-statement</a>
External	EUROPEAN COMMISSION. Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020. DG Research and Innovation, 2016 <a href="http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf">http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf</a>
External	General Data Protection Regulation 2016/679 Regulation of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) <a href="https://eur-lex.europa.eu/eli/reg/2016/679/oj">https://eur-lex.europa.eu/eli/reg/2016/679/oj</a>
External	Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity <a href="https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf">https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf</a>
External	European Charter for Researchers <a href="https://www.euraxess.lu/sites/default/files/am509774cee_en_e4.pdf">https://www.euraxess.lu/sites/default/files/am509774cee_en_e4.pdf</a>
External	Loi du 3 décembre 2014 <a href="http://legilux.public.lu/eli/etat/leg/loi/2014/12/03/n2/jo">http://legilux.public.lu/eli/etat/leg/loi/2014/12/03/n2/jo</a>
External	National regulation “Code de la santé” <a href="http://legilux.public.lu/eli/etat/leg/code/sante/20210201">http://legilux.public.lu/eli/etat/leg/code/sante/20210201</a>
External	National regulation “Loi du 27 juin 2018 sur la protection des animaux” <a href="http://legilux.public.lu/eli/etat/leg/loi/2018/06/27/a537/jo">http://legilux.public.lu/eli/etat/leg/loi/2018/06/27/a537/jo</a>
External	National regulation “Act of 1 August 2018” <a href="http://legilux.public.lu/eli/etat/leg/rqd/2013/01/11/n2/jo">http://legilux.public.lu/eli/etat/leg/rqd/2013/01/11/n2/jo</a>
External	National regulation “Act of February 27, 2015” approving the Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising out of their Utilization related to the Convention on Biological Diversity, concluded in Nagoya on October 29, 2010 <a href="http://legilux.public.lu/eli/etat/leg/loi/2015/02/27/n3/jo">http://legilux.public.lu/eli/etat/leg/loi/2015/02/27/n3/jo</a>
Internal	LIST Conflict of Interest policy (To be published in the LIST intranet)
Internal	LIST “Règlement d’ordre intérieur” <a href="https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/ROI_du_LIST.pdf">https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/ROI_du_LIST.pdf</a>
Internal	LIST Information Security Policy <a href="https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/LIST_POL-09_EN.pdf">https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/LIST_POL-09_EN.pdf</a>
Internal	LIST HSE Policy <a href="https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/LIST_POL-03_EN.pdf">https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/LIST_POL-03_EN.pdf</a>
Internal	Regulations for safety and the use of infrastructures <a href="https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/LIST_DOC-45_EN.pdf">https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/LIST_DOC-45_EN.pdf</a>
Internal	Accident and Incident Management Procedure <a href="https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/LIST_PRO-09_EN.pdf">https://intranet.private.list.lu/fileadmin/files/5_Documentation/Admin_support/LIST_PRO-09_EN.pdf</a>