

**TITLE OF THE RESEARCH PROJECT**

*Humanistic and Systemic Method Linked to the 17 UN SDGs  
Application to University Organizations*

**SUPERVISORS**

	First name	LAST NAME	University	Research Unit
Supervisor	Eric	Schall	UPPA	SIAME
Co-Supervisor	Alin	Speriusi-Vlad	UVT	Faculty of Law

**Fields of study**

This research lies at the intersection of sustainability studies, organizational sciences, and higher education research. It mobilizes systemic and humanistic approaches to analyze how organizations, particularly universities, can align their activities with the United Nations' 17 Sustainable Development Goals (SDGs). The project is situated within the broader fields of environmental humanities, management and governance of organizations, and educational sciences, with strong interdisciplinary connections to sociology, cultural studies, and policy analysis.

**Requirements (academic background, languages...) needed to apply for this research topic**

Applicants should hold a Master's degree, or an equivalent qualification from an engineering school, in any academic field, as the research is inherently transversal. Beyond disciplinary background, the key requirement is a genuine interest in sustainability and a strong commitment to addressing the planetary challenge of ecosystem imbalance and its consequences for life on Earth. This joint UPPA–UVT research project requires English as the main language of communication, complemented by proficiency in either French or Romanian to enable effective co-supervision on both sides of the partnership.

**5 main KEYWORDS**

1. Sustainable Development Goals (SDGs)
2. Systemic methodology
3. Humanistic approach
4. Universities / Higher Education
5. Organizational sustainability

**ABSTRACT (250 words max.)**

The Anthropocene, beginning in the late 19th century with industrialization, marks the first time humankind has caused systemic imbalances in ecosystems shaped over 66 million years. Organizations, as key structures of modern societies, drive demographic growth, biodiversity loss, resource depletion, and climate disruption. Among them, the United Nations stands out as the largest global organization, uniting most countries and providing a collective roadmap through its 17 Sustainable Development Goals (SDGs) explicitly designed “to save the world.” Yet, existing tools — standards, certifications, and labels — fail to link organizational activities systematically to the SDGs.

This research proposes a humanistic and systemic methodology to address this gap. It starts with a semantic, cultural, and contextual analysis of organizational activities down to the operational level. Indicators are modeled, measured, and synthesized into simplified visual representations, inspired by the UN’s circle-and-arrow system, to assess positive and negative impacts. Artificial intelligence is employed judiciously to support data processing and reveal complex correlations, while human expertise remains essential for interpretation and ethical validation.

Universities are chosen as the primary application field, for their role in knowledge production, value transmission, and shaping sustainable futures. Testing this methodology in academic institutions aims to create a replicable framework for diverse organizations, helping them align more effectively with the SDGs.

Ultimately, the approach strengthens accountability, transparency, and societal engagement, empowering organizations to amplify positive impacts and mitigate negative ones.

**Research aims and methodology**

**The urgency of the global ecological situation requires a profound rethinking of the tools available to our societies to understand and act. The growing imbalance of ecosystems, largely caused by human activities, directly threatens the preservation of life on Earth. Faced with this responsibility, it is essential to provide systemic models bringing together all the components of our society — in particular the organizations that structure collective life.**

These models must be accompanied by methods and tools capable of providing quantified, meaningful, and representative results of reality, in order to awaken both individual and collective awareness. The ambition is to build a common reference framework — understandable, recognized, and accepted by all social classes, and in particular by those who exercise political, organizational, or societal responsibilities, or who hold influence through social networks. The ultimate goal is that every inhabitant of the planet, regardless of age, social class, country, or culture, may become fully aware of the imbalance of ecosystems caused by human activity, as an indispensable prerequisite for any reflection and any action to remedy it.

The main objective of this proposal is therefore to develop and implement a systemic and semantic methodology based on mathematical models, integrating in a reasoned manner digital tools and artificial intelligence (AI). This methodology aims to identify, measure, and evaluate the actions and activities of organizations with regard to the 17 United Nations Sustainable Development Goals (SDGs) [1–6]. Existing tools — standards, certifications, labels, charters, accreditations — make it possible to structure and validate actions, but none explicitly links these activities to the SDGs in a systematic way [2,3,4]. Many organizations, including small municipalities, therefore lack protocols to assess their positive and

negative impacts on the environment, society, or the SDGs, making a transparent, reproducible, and scientifically based evaluation framework indispensable.

To respond to this observation, the proposed methodology is based on a systemic approach in several stages:

1. **Semantic, cultural, and contextual analysis:** Each organizational activity — down to the individual tasks and reports of agents — is analysed for its potential impact on the SDGs. This phase uses as a zero version the 2018 guide “*Sustainable Development Goals, what contributions from higher education professions in France?*” [3]. It integrates social knowledge through intangible heritage and identity narratives (CHH2), the cultural understanding of tangible heritage (CHH1), and digital tools for analysis and dissemination (CHH3). AI can automate certain processes and reveal correlations, but its effectiveness depends entirely on the quality and richness of the databases built by humans, themselves nourished by cultural and contextual values.
2. **Mathematical modeling and quantitative scoring:** The indicators identified during the semantic and cultural analysis are formalized and quantified in order to produce precise measurements of positive and negative impacts. This transition from qualitative to quantitative requires rigorous codification of the concepts and values extracted, taking into account their social and cultural context. AI can support this step by automating certain analyses, detecting complex correlations, and suggesting models, but all results must be validated and interpreted by human experts to ensure scientific rigor and cultural relevance. The results are then synthesized in the form of intuitive visualizations (circles and arrows), inspired by UN reports on the SDGs (see Figure “*SUSTAINABLE DEVELOPMENT REPORT 2025 – Financing Sustainable Development to 2030 and Mid-Century, Includes the SDG Index and Dashboards*”), where indicators appear to the left of the title as colored circles (green, yellow, red) and horizontal, upward, or downward arrows, respectively indicating the levels reached and the trends of the goals. This representation allows decision-makers and stakeholders to quickly assess the global and sectoral impact of actions. This approach therefore combines computational modeling and human expertise to translate the qualitative richness of the data into reliable and usable indicators.
3. **Implementation, testing, and iterative improvement:** The role of universities in this context is particularly critical. As highlighted by the report of the *Cour des comptes* “*Higher education facing the challenge of ecological transition*” (December 21, 2023) [4], these institutions represent nearly half of the State operators and welcome a large public, generating a substantial environmental impact. Although many initiatives have been undertaken, they remain insufficient and lack rigorous and coherent tools to evaluate and improve their impacts. This observation also confirms the conclusions of the 2018 DD&RS survey [2], which highlighted the absence of protocols or operational methods allowing universities to maximize their positive contributions while reducing their negative impacts on the ecosystem.



In this context, universities are chosen as a symbolic and practical starting point: they embody both the production and transmission of knowledge, values, and sustainable practices, while offering a relevant ground to test the proposed methodology. Designed to be iterative and adaptable, it mobilizes AI in a reasoned manner to support continuous improvement, without ever replacing the human expertise or critical capacity necessary to interpret the results.

**Indispensable human verification:** Whatever the sophistication of the tools, human experts and stakeholders must always control the interpretations and productions of AI. The analysis requires contextual understanding, ethical judgment, and lived experience that only human actors, bearers of values and responsibility, can provide. AI is a tool to assist analysis, and not a substitute for human responsibility in control, validation, and decision-making.

**Legal framework and data management:** Beyond the scientific and technical aspects, the methodology is based on a clear framework of legal security. Concretely, all data collected or produced will be processed in accordance with European protection rules (GDPR). Personal information that may be collected in the context of voluntary interviews will be used only with the consent of the persons, then anonymized to guarantee their confidentiality. A precise data management plan (retention period, access conditions, dissemination) will be established to ensure transparency and traceability. The introduction of this component strengthens the credibility and institutional applicability of the research: the proposed methodology is not only rigorous from an academic point of view, but also compliant with the legal and ethical expectations of public and private organizations likely to adopt it.

This systemic approach is based on existing work — DD&RS label, France Universités guides [2,3], recommendations from *France Stratégie* [5], reports from the *Cour des comptes* [4] — and enriches them through computational modeling, reasoned use of AI, and open-access visualization. All this work, from university audits [2] to the 2018 France Universités guide [3] and recent reports, confirms the critical need for an explicit link between organizational actions and the SDGs. To date, no operational method exists to fill this gap, which underlines the complexity of the problem and the need for a systemic interdisciplinary model capable of integrating all human, cultural, social, and scientific dimensions.

**Summary:** The methodology also aligns with the axes of the Cultural Heritage Hub (CHH1–CHH4) of the CHORAL program:

- **CHH1:** Study and preservation of tangible heritage.
- **CHH2:** Intangible heritage and identity narratives.
- **CHH3:** Valorization and dissemination of cultural and natural heritage.
- **CHH4:** Innovation policies for the development of marginalized areas.

This research proposes robust, transparent, and systemic tools, combining scientific rigor, social relevance, and thoughtful use of digital technologies, while affirming the necessity of permanent human supervision.

## References:

[1] Brundtland, G. H. (1987). *Our Common Future: Report of the World Commission on Environment and Development* (Document A/42/427). United Nations General Assembly.

[2] **France Universités**<sup>1</sup>. (2018, septembre). *Organisation et gestion du Développement Durable et de la Responsabilité Sociale dans les universités françaises. Rapport d'enquête DDRS* [PDF].

France Universités. <https://franceuniversites.fr/wp-content/uploads/2018/09/rapport-enquete-DDRS-septembre-2018-1.pdf>

[3] **France Universités, Conférence des grandes écoles**<sup>2</sup>, & **B&L évolution**. (2018). *Objectifs de développement durable, quelles contributions des métiers de l'ESR en France?* France Universités.

<https://franceuniversites.fr/publication/objectifs-de-developpement-durable-quelles-contributions-des-metiers-de-lesr-en-france/>.

[4] **Cour des comptes**<sup>3</sup>. (2023, 21 décembre). *L'enseignement supérieur face au défi de la transition écologique* [Rapport public thématique]. Cour des comptes. [https://www.ccomptes.fr/sites/default/files/2023-12/20231221-Lenseignement-sup--rieur-face-au-d--fi-de-la-transition-ecologique\\_0.pdf](https://www.ccomptes.fr/sites/default/files/2023-12/20231221-Lenseignement-sup--rieur-face-au-d--fi-de-la-transition-ecologique_0.pdf)

[5] **France Stratégie**<sup>4</sup>. (2024, 9 mai). RSE et ODD [Avis de la Plateforme RSE, PDF]. Agenda-2030.fr. <https://www.agenda-2030.fr/a-la-une/actualites-a-la-une/article/les-objectifs-de-developpement-durable-odd-et-la-responsabilite-societale-des?>

[6] Hamant, O. (2023). *Antidote au culte de la performance : La robustesse du vivant*. Gallimard Tracts.

## Relevance and added-value of the proposed research in relation to the current state of knowledge

**This research proposal addresses a major gap in the evaluation of the impacts of organizations with regard to the 17 United Nations Sustainable Development Goals (SDGs). Although many tools exist — standards, certifications, labels, charters, accreditations — to structure, validate, and valorize the actions of organizations, none clearly highlights the link between these actions and the SDGs [2,3,4]. Thus, many organizations — ranging from small municipalities to universities — do not have any methodology to systematically evaluate and demonstrate their positive and negative impacts in relation to the global sustainability goals. In some cases, local elected officials or decision-makers have no protocol or tool to measure their environmental or societal contributions, and even less to link them to the SDGs.**

Since 2019, Éric Schall, project officer at UPPA (University of Pau) since 2018, began working on the implementation of this evaluation within universities, using as a basis the 2018 guide [3]. Through approximately 28 months of supervision of Master's level or engineering school interns, he developed a zero version of a protocol called ADEO (Dynamic Audit ESR-UN). This protocol was applied at UPPA in 2021, mobilizing all the institution's services, with more than 1000 questions requiring 95% literal answers with explanations, and a partial analysis involving 1600 hours of students. The results made it possible to produce synthetic indicators: 57% of the 17 families comply with the RSU model, 21% need improvement, and 22% did not respond. This work, entirely manual at the time, did not yet integrate artificial intelligence or dynamic modeling of indicators, but constituted a crucial stage of testing and proof of concept [2,3].

<sup>1</sup> **France universités** is the organization that brings together the main French universities to defend their interests and coordinate their actions at the national level. Before 2022, it was called CPU (Conference of University Presidents), a gathering of university presidents, before expanding its role and changing its name to better represent all universities.

<sup>2</sup> **Conférence des grandes écoles**: The Conférence des Grandes Écoles (CGE) is a French association that brings together engineering, business, and other prestigious higher education schools known for their excellence. It coordinates their activities, ensures the quality of their programs, and represents their interests to public authorities and economic partners.

<sup>3</sup> **Cour des comptes** : is an independent French institution responsible for auditing public finances and evaluating the effectiveness of public policies. It serves as a guarantor of the proper use of public funds and advises Parliament and the government to improve transparency and government performance.

<sup>4</sup> **France stratégie**: is a public agency under the authority of the Prime Minister, tasked with conducting analyses and making recommendations to guide public decision-making. It carries out forward-looking studies on economic, social, and environmental issues to inform policy choices.



The originality of the proposal lies in the transition to a dynamic, evolving, and AI-assisted methodology, enabling semantic analysis of activities, mathematical modeling, and the production of usable indicators in real time. It also proposes making a zero version openly accessible to all universities, with the objective of testing, refining, and generalizing the protocol to other organizations.

The project will be able to rely on existing professional networks, in which Éric Schall participates regularly: CIRSES (deployment of the DD&RS label), AFNOR (participation in ISO 26000 commissions), France Stratégie (CSR platform), France 2050, and GRI, through symposia, meetings, and thematic exchanges throughout the year, offering anchoring points for the dissemination and adoption of the methodology. All these networks are centered on ecology, energy transition, preservation of ecosystems, and sustainable development.

In addition, the project will be conducted jointly in France and Romania. This represents a unique opportunity to compare two different regulatory and institutional contexts. For example, the way in which French universities apply certain standards (ISO 26000, DD&RS labels) may be compared with Romanian practices. This comparison is not limited to a juxtaposition of rules: it makes it possible to see how different cultural and legal environments address the same challenges. Thus, the methodology will gain in robustness and transferability, since it will have been tested in two countries, strengthening its potential for adoption at the European level.

**Legal expertise role:** the relevance of the project also relies on the decisive contribution of Alin Speriusi Vlad (UVT), lecturer in public law and specialist in university governance and intellectual property. His experience in coordinating European projects and in analyzing regulatory frameworks ensures a solid legal foundation for the methodology. By ensuring compliance with existing standards (GDPR, governance, institutional responsibility), he guarantees the validity of the indicators produced and their adoption by universities, local authorities, and European bodies. This component reinforces the credibility and applicability of the research, consolidating its positioning at the crossroads of scientific, societal, and legal issues.

Furthermore, the proposal builds on and extends existing frameworks in higher education. The DD&RS label, the DD&RS survey [2], and the France Universités & B&L Evolution guide [3] provide partial evaluation tools, but they do not propose dynamic audits, continuous evaluation, or semantic linkage with the 17 SDGs. By combining AI-assisted semantic analysis, mathematical modeling, and visualizations inspired by United Nations reports [1], this project enables real-time auditing and clear communication of impacts, reinforcing both credibility and strategic management.

**In summary, the added value of this research lies in its capacity to:**

1. Provide a clear, measurable, and semantically structured link between organizational actions and the 17 SDGs.
2. Propose a systemic and reproducible methodology, applicable to various organizations, from universities to municipalities.
3. Allow a dynamic and precise evaluation of positive and negative impacts, fostering evidence-based decisions.
4. Strengthen existing frameworks through the integration of AI, semantic modeling, and visualization tools (circles and arrows) for intuitive interpretation [1–6].

This approach thus fills a crucial methodological gap in evaluating the contribution of organizations to sustainable development and makes it possible to support informed actions in favor of global goals.

## Interdisciplinary nature of the research together with the alignment with the CHORAL programme and complementarity expertise of the teams

**This research proposal is part of a resolutely interdisciplinary approach, mobilizing the social sciences, legal sciences, management sciences, and digital sciences to respond to the ecological and social emergency. It is fully aligned with the objectives of the CHORAL program and, more particularly, with the axes of the Cultural Heritage Hub (CHH1–CHH4 defined in the section “Research Objectives and Methodology”).**

### Expertise of Éric Schall (UPPA)

For six years as project officer at UPPA, Éric Schall has been developing and leading actions in favor of energy transition and sustainable development, combining administrative missions, scientific support, and institutional strategy. His action is characterized by:

- Active participation in political decisions and dialogues with decision-makers, notably during the *Grand Débat National* in 2019, where he was invited by François Bayrou as a key witness of the energy transition (CHH4);
- Commitment in professional networks and NGOs, such as CIRSES and the monitoring of the DD&RS label of universities, to promote social responsibility and sustainability in higher education and research (CHH2, CHH3);
- Contribution to the work of AFNOR, notably to the revision of the ISO 26000 standard, in order to strengthen the integration of social responsibility in organizations, covering governance, environment, and human rights [5] (CHH3, CHH4);
- The establishment of structuring initiatives within UPPA, such as the monitoring group “mission SDGs,” intended to steer university actions aligned with the 17 SDGs and to strengthen the awareness of staff, students, and users (CHH2, CHH3);
- Previous experience with the ADEO-0.1 dynamic audit in 2019 at UPPA, which made it possible to model indicators by profession and to experiment with an evaluation protocol without AI, with quantifiable levels and trend arrows for the communication of results (CHH3, CHH4).

### Expertise of Alin Speriusi Vlad (UVT)

Associate professor at UVT, Alin Speriusi Vlad brings complementary expertise in civil law, academic governance, and intellectual property, essential to the reliability and reproducibility of the proposed methodology. His action is characterized by:

- More than twenty years of experience in higher education and research, with academic and postdoctoral stays in leading European institutions (CHH2, CHH3);
- Leadership, coordination, or expertise in numerous national and European projects on legal harmonization, academic governance, and the evaluation of regulatory impacts (CHH1, CHH4);
- Sustained scientific production, including books, articles, international communications, and doctoral supervision, consolidating his role as a recognized expert (CHH1, CHH2);

- Commitment to the protection and valorization of cultural and institutional heritage, integrating law and governance as levers for the preservation and dissemination of knowledge (CHH1, CHH2, CHH3);
- The ability to transform interdisciplinary methodologies into reliable legal frameworks, guaranteeing their applicability and recognition in different institutional and transnational contexts, thus supporting the operational implementation of the SDGs (CHH3, CHH4).

## Complementarity of expertise

The synergy between the practical and institutional experience of Éric Schall and the legal and academic expertise of Alin Speriusi Vlad makes it possible:

- To design and implement a systemic, semantic, and mathematically modeled methodology, applicable to universities and other organizations to measure and valorize the positive and negative impacts on the 17 SDGs (CHH2, CHH3);
- To ensure a comprehensive interdisciplinary approach, combining social sciences, legal sciences, digital sciences, and management (CHH1–CHH4);
- To create a reproducible and adaptable model for different organizations, consolidating the scientific and operational relevance of the project and its alignment with the strategic axes of the CHORAL program and the Cultural Heritage Hub of UPPA (CHH1–CHH4).

## Cultural heritage and law

This complementarity takes on its full meaning in the valorization of university cultural heritage. Universities not only produce knowledge: they are also guardians of a rich heritage, whether archives, collections, traditions, or identity narratives linked to academic life. Law plays a central role here: it contributes to protecting this heritage, defining the modalities of sharing and dissemination, and preventing any inappropriate use. By integrating this legal dimension into the project, we emphasize how the preservation and valorization of academic cultural heritage can go hand in hand with responsible and norm-compliant dissemination, thus strengthening the relevance and impact of the actions carried out across all CHH1–CHH4 axes.

## Output plan including publication and dissemination activities

**The CHORAL project proposes a structured plan of scientific production and dissemination aimed at maximizing its academic and societal impact. The central objective is to document and share the development, application, and validation of a systemic and semantic methodology linking organizational actions to the 17 United Nations Sustainable Development Goals (SDGs) [1–6].**

This approach builds on the corpus established since 2019 (UPPA), enriched by the ADEO 0.1 experience, which made it possible to test a zero version of the audit without AI. All the indicators from the guide *“Et si on allait plus loin”* [3] were adapted to four levels of response, enabling a quantifiable and visual model (colored circles and trend arrows). This first modeling constitutes a solid basis for scientific validation and for the evolution towards AI-assisted integration.



## 1. Scientific production and publications

A publication plan at both national and international levels is planned, structured as follows:

- Scientific articles in reference journals (CSR, SDGs, applied AI, law and governance);
- Technical notes and methodological reports disseminated to partner institutions;
- Presentations at specialized conferences on systemic transformation, organizational sustainability, and resilient universities;
- Practical guides for the dissemination of results to institutional and professional networks.

## 2. Dissemination and communication activities

### • Institutional and professional networks:

- **AFNOR:** networking with academics and industry actors involved in standardization and certification, capitalizing on its international role in the co-construction of standards;
- **CIRSES / DD&RS label:** integration of indicators and methodology into the labeling process of higher education institutions;
- **France Universités:** dissemination to stakeholders who produced the DD&RS report [2] and the B&L Evolution guide [3];
- **France Stratégie:** articulation with the work of the CSR platform [5];
- **Cour des comptes:** response to the recommendations of its report on social responsibility in higher education and research [6].

To complement these dissemination actions and strengthen the appropriation of the tools developed, the project includes a specific component on intellectual property and licensing. The project will produce concrete tools: methods, indicators, visual schemes, and practical guides. The idea is that these results can be widely shared, so that other universities or local authorities can use them in turn. To this end, they will be made available under open licenses (e.g., Creative Commons), allowing free but controlled reuse. This approach fosters transparency, dissemination, and reproducibility, while respecting existing rights when protected documents or content are mobilized. This strategic choice ensures sustainable added value for the project, facilitating its appropriation and impact beyond the circle of researchers.

### • Territorial partnerships:

- Presentation of a pilot version of the methodology to the *Communauté d'agglomération Pau Béarn Pyrénées* and to the *Nouvelle-Aquitaine Region*, with a view to proposing pilot projects or responding to regional calls.
- This territorial dimension will make it possible to demonstrate local feasibility before wider deployment.

### • Alignment with the CHORAL program and the Cultural Heritage Hub (CHH):

- Tangible heritage (CHH1);
- Intangible heritage and identity narratives (CHH2);
- Valorization and dissemination of cultural and natural heritage (CHH3);

- Innovation policies and support for marginalized areas (CHH4).

## • Cultural heritage and law:

Universities not only produce knowledge: they are also guardians of a rich cultural heritage, whether archives, collections, traditions, or identity narratives linked to academic life. Law plays a central role here: it contributes to protecting this heritage, defining the modalities of sharing and dissemination, and preventing any inappropriate use. By integrating this legal dimension into the project, we emphasize how the preservation and valorization of academic cultural heritage can go hand in hand with responsible and norm-compliant dissemination, thus strengthening the relevance and impact of the actions carried out across all CHH1–CHH4 axes.

## • Intellectual property and licenses:

The project will produce concrete tools: methods, indicators, visual schemes, and practical guides. The idea is that these results can be widely shared, so that other universities or local authorities can use them in turn. To this end, we propose to make them available under open licenses (e.g., Creative Commons), allowing free but controlled reuse. This fosters transparency and dissemination, while respecting existing rights when working on already protected documents or content. This choice gives the project sustainable added value, by facilitating its appropriation beyond the circle of researchers and supporting the development of communities of practice around the proposed methodologies.

## 3. Governance and monitoring

A steering committee (UPPA, UVT, and voluntary partners) will supervise:

- The continuous updating and optimization of indicators and tools;
- The scientific and legal validation of methodologies;
- The coordination of publications and presentations;
- The sharing of good practices with local authorities, institutions, and European networks.

This strategy guarantees an academic, political, and societal impact, both national and international, and ensures a solid anchor point for the deployment of the methodology and the increased visibility of the project.

## Estimated schedule

**This proposed schedule constitutes a preliminary framework for the doctoral project within the framework of the CHORAL program. It is indicative and will be refined during the recruitment of the student in order to take into account practical, material, and financial aspects.**

### Year 1 – Appropriation, state of the art, and first developments

- Interdisciplinary literature review on CSR, SDGs, systemic transformation, organizational audit methods, and comparative approaches (legal, societal, and technical).
- Critical analysis of existing normative frameworks (ISO 26000, DD&RS labels, European reference frameworks, France Stratégie reports, Cour des Comptes, etc.).
- Methodological consolidation based on the ADEO 0.1 experience and the corpus “*Et si on allait plus loin*” [3].

- Doctoral seminars (UPPA, UVT) and exchanges with AFNOR, CIRSES.



## Planned publications (end of Year 1):

- Journal article in a national review (e.g. *INRIA, Revue française de gestion, Développement durable & territoires*).
- Technical note in a professional medium (AFNOR/CIRSES).
- Presentation at a French-speaking conference (DD&RS, CSR).

## Deliverables end of Year 1:

- Summary note (state of the art);
- First formalization of the methodological protocol;
- Submitted article (national review).

## Year 2 – Development and experimentation

- Development and adjustment of the methodology, integrating systemic and semantic approaches.
- Pilot experiments with partner actors (DD&RS universities, *Communauté de communes de Pau Béarn Pyrénées*, partners in Romania).
- Comparative France–Romania analysis, including regulatory differences, cultural and institutional dynamics.
- Intermediate valorization through scientific communications and methodological reports.
- First tests of dissemination and appropriation of tools under open licenses (Creative Commons) to ensure transparency and controlled reuse.



## Planned publications (Year 2):

- 1 article in an international journal (e.g. *Sustainability, Ecological Indicators, Systems Research & Behavioral Science*).
- 1 article in a societal/cultural journal (e.g. *International Journal of Cultural Policy, Heritage & Society*) – link with CHH1–CHH3.
- Presentation in at least 2 international conferences (CSR, SDGs, systemic transformation, heritage).

## Deliverables end of Year 2:

- Intermediate version of the protocol validated by the steering committee;
- Comparative experimentation report France/Romania;
- Submitted international article;
- Presentations in two conferences.

## Year 3 – Validation, valorization, and dissemination

- Scientific and legal validation of the final methodology (in connection with AFNOR, CIRSES, France Stratégie).
- Production of practical guides and visual tools for wide dissemination (universities, local authorities, companies).
- Extension of the application field to other partners.

- Preparation and defense of the thesis (UPPA–UVT).
- Organization of CHORAL workshops for interuniversity valorization and dissemination.



### Planned publications (Year 3):

- 1 international synthesis article in a high-impact journal (e.g. *Journal of Cleaner Production, Environmental Science & Policy, Futures*).
- 1 article in an interdisciplinary journal (e.g. *Systems Research & Behavioral Science, Sustainability Science*).
- 1 practice-oriented article (professional review / AFNOR / CIRSES).
- Final presentations (international conferences in Europe, CHORAL workshops).

### Deliverables end of Year 3:

- Thesis manuscript + defense;
- Two additional international articles submitted;
- Final report (summary + operational recommendations);
- Practical guide disseminated via CIRSES/AFNOR/France Universités.

### Global scheme

- **Year 1** → 1 national publication + technical note + French-speaking conference.
- **Year 2** → 2 international publications (scientific + societal/cultural) + 2 international conferences.
- **Year 3** → 3 publications (international synthesis + interdisciplinary + professional) + final communications + defense.