

My Skills Portfolio



# Table of contents

[Introduction 1](#_Toc68103422)

[1 Competency Block 1: Design and development of a research and development, study and foresight approach 5](#_Toc68103423)

[2 Competency Block 2: Implementation of a research and development, study and prospective process 8](#_Toc68103424)

[3 Skills Block 3: Valuation and transfer of the results 11](#_Toc68103425)

[4 Skills Block 4: International science and technology watch 15](#_Toc68103426)

[5 Competence block 5: Training and dissemination of scientific and technical culture 17](#_Toc68103427)

[6 Skills Block 6: Management of teams dedicated to research and development, studies and foresight activities 19](#_Toc68103428)

[7 ANNEX 1: Scale of levels of autonomy in the professional context 21](#_Toc68103429)

[8 ANNEX 2: Summary of training and skills acquired 22](#_Toc68103430)

**Sources used**

* **Order of 22 February 2019 defining the competences of doctoral graduates and registering the doctorate in the National Register of Professional Certification (RNCP)**

<https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000038200990/>

* **Doc Pro**

<http://www.mydocpro.org/fr>

* **→ Skills portfolio drawn up by ED ABIES**
* « **passeport docteur » of l’ANDES**

<https://andes.asso.fr/passeport-docteur/>

# Introduction

The main part of the doctoral activity consists of innovative research work limited in time, supervised by a doctoral director, within a research unit. The doctorate is characterised by the production of new knowledge in an international context, as well as the dissemination of this knowledge, for example through teaching or written and oral communications to other specialists. The doctorate concludes with the writing of a thesis and its defence, i.e. a synthetic restitution of the scientific work carried out, validated by the scientific community.

The doctorate is also a period of increasing competence. Doctors of course have expertise in the thematic field they have explored, but also cross-disciplinary skills that can be transferred to other activities. The highest level of the National Qualifications Framework, to which the doctorate is attached, states that graduates are able to "**identify and solve complex and new problems involving a plurality of fields, by mobilising the most advanced knowledge and know-how; design and steer research and innovation projects and processes; make innovative contributions in the context of high-level exchanges and in international contexts**". Moreover, as each professional experience is individual, each doctor has developed all the skills related to the PhD, and each of them with more or less master's degree.

Faced with the current competition on the labour market, for doctors, who can pursue all types of careers, **it is necessary to identify their skills, to know how to name them and to talk about them**. Knowing how to refer to them in different ways is particularly useful in adapting to the person you are talking to, for example according to the proximity you have with them, their knowledge of the doctorate, the specific vocabulary they use in their activities or the profile sought by a recruiter.

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***My professional project***

You may be more concerned at the moment about the progress of your research project...". We'll see what happens next. However, after will come very quickly and anticipation can allow you to consider unexpected positions, or to put all your assets aside for the career that tempts you. Even if your supervisors can help you in your future integration, it is also in your hands. A project is built, sometimes slowly, evolves, changes... and its success is anticipated. It is therefore important that you start thinking about the outlines of your professional project from the very beginning of your thesis, so that you can refine, enrich and gradually develop it throughout your period of training through research.

* **Why did I decide to engage in a thesis?**
* **What activities of my PhD do I prefer?**
* **Which activities of my PhD do I dislike?**
* **What do you expect from your future profession?**

*(For example: job security, high pay, deepening one's field, important responsibilities, "reasonable" and flexible hours, social status, versatile and multi-tasking work, defending a "cause", making myself useful to society, etc.).*

* **How do you prioritise these different expectations?**
* **Do you envisage national or international mobility?**
* **What function(s) would you like to perform?**

*(For example: researcher, teacher-researcher, R&D project manager in the private sector, consultant, expert, valorisation or organisation of research, scientific communication, scientific journalist, technical-commercial engineer, business creator, etc.).*

* **What are the scientific field(s) or branch(s) of activity in which you would like to work?**

*(For example: agronomy, agri-food, bioinformatics, biotechnology, genetics, genomics, health, environment...)*

* **What type of organisation would you like to work in?**

*(For example: public research organisation, University or School, Agency (ANSES, ADEME, ...), Group or international organisation, large company, SME or VSE, start-up, local authority, consultancy firm, association, NGO, etc…)*

* **To date, have you taken any action to prepare for your professional future?**
* Information on jobs (internet, specialised press, consultation of job offers)
* Building a CV
* Complementary professional doctoral training courses from the University of Paris-Saclay or others
* Creation/maintenance of my network within laboratories in France or abroad
* Solicitation of my thesis director's scientific network
* Making contacts with the professional world: participation in trade fairs, meetings with people working in companies, participation in meetings/meetings between "research" and "companies"...
* Internship in a company or other activity
* Others ?

*→ What have you gained from these actions?*

**Self-evaluation**

**My professional project**

Do you feel that your professional project is, to date :

Clear and defined ☐ In the process of being defined ☐ Little defined ☐ Obscure ☐

**In a few lines, describe your professional project, as you define it today.**

**Describe the concrete actions you plan to take to help clarify your future:**

# Competency Block 1: Design and development of a research and development, study and foresight approach

Conceiving a feasible and innovative research project is an essential skill for a researcher. Project design includes formulating a research problem based on knowledge of the existing bibliography, designing experimental protocols, identifying the material and human resources needed to carry out the project (seeking funding and responding to calls for tender, identifying the public and/or private partnerships to be established), the ability to set up a work schedule, milestones and final expectations.

The questions below will help you to describe and assess your degree of competence in this area. We advise you to describe the activities you have carried out as concretely and precisely as possible.

## Was the subject already definite before my arrival?

Yes totally ☐ Yes partially ☐ No hardly ☐ Not at all ☐

## If so, how is it concretely appropriated to you?

## If not, how did you participate in its construction or deepening (if it was partially defined)?

## How did you contribute to modifying (inflecting/reorienting) your thesis topic during your doctoral studies?

Describe when it happened, on what aspects, with whom, why?

## In the course of your present, what constraints did you have to adapt to? Did you encounter any particular difficulties? How did you overcome them?

## On what occasions have you been led to defend the innovative character of your subject of these, its added value?

Describe the actions undertaken and their outcomes

## On what occasions have you been asked to defend the feasibility of your thesis project?

Describe the actions undertaken and their outcomes

## .Have you been able to identify and/or argue about the possible repercussions of your research (scientific, industrial, environmental, health impacts, etc.) ?

## What resources have you used to explore your research topic (publications? websites? books? conferences? courses? etc.)

## Have you had the opportunity to participate in the design of other research projects, either directly or indirectly?

For example: responding to calls for tenders, looking for grants, building a post-doctoral project, etc...

## What conclusions can you draw regarding the construction/design of a research project?

**Self-evaluation Block 1**

**Do you feel competent to design a research project?**

**Your Self-assesment :**

I feel competent and autonomous ☐

I feel competent with help ☐

I don't feel competent yet but I'm making progress ☐

I don't feel competent and I doubt I can do it ☐

**Identified strengths and weaknesses**

**What concrete actions do you plan to implement to strengthen your competences in this field?**

***REFERENTIAL BLOCK 1***

* *I have both general and specific scientific expertise in a given field of research.*
* *I am able to take stock of the state and limits of knowledge within a given sector of activity, at the local, national and international levels.*
* *I identify and solve complex and new problems involving the mobilisation of the most advanced knowledge and know-how in different fields of science.*
* *I can identify opportunities for conceptual breakthroughs and design innovation axes for a professional sector.*
* *I can make innovative contributions within the framework of exchanges, including in international contexts.*
* *I can constantly adapt to the needs of research and innovation within a professional sector.*

# Competency Block 2: Implementation of a research and development, study and prospective process

You have actively participated in the realisation of your thesis project: setting up and monitoring experimental protocols, collecting, archiving and processing data/interpreting results, bibliographical research and comparing the results with the work of peers, building/establishing partnerships (public and private), possible reorientation of the project, etc...

This is a "core competency" of a young researcher. Without being exhaustive, the questions below will help you to describe and assess your competence in implementing a research project. In particular, you should specify what is your personal contribution, beyond following up on the recommendations of your supervisor(s).

## What, specifically, was your contribution to the conduct of the thesis project?

Briefly describe the modelling/experimentation/data collection and analysis techniques you used?

## What was your degree of autonomy[[1]](#footnote-1) in carrying out each one of them?

## How did you organise and manage your working time? Have you set a timetable? Have you respected it?

## What difficulties, obstacles and unexpected events have you had to face? What solutions have you come up with to solve, overcome or get around them?

## How was the monitoring of the project carried out?

What types of meetings (regular, briefing after each steps, "crisis" meetings)? With whom? How often? What was your contribution to the preparation and running of these meetings?

## How did you take up the discussions and recommendations made at these meetings to continue your work?

## Globally, did you manage to meet the deadlines and operating costs originally planned? How did you do this?

## Have you made any technical or technological innovations? describe it

## Have you been involved in conducting other research projects? At what levels? Describe it

## Have you carried out (with or without your supervisors) an evaluation of the success and risk factors of your research project?

* As regards risks, have you identified them, then assessed and prioritised them (according to criteria of probability of occurrence, potential seriousness)?
* For each of the main risks identified, have you devised preventive measures (aimed at reducing the probability of occurrence of the risk concerned) and/or corrective measures (plans B, spare wheels)?

## Have you had the opportunity to participate in the evaluation of the cost and funding of a research project?

## What lessons have you drawn from your experience of managing a research project?

**Self-evaluation Block 2**

**Do you feel competent to manage a research project?**

Your self-assessment :

I feel competent and autonomous ☐

I feel competent with help ☐

I don't feel competent yet but I'm making progress ☐

I don't feel competent and I doubt I can do it ☐

**Identified strengths and weaknesses :**

**What concrete actions do you plan to implement to strengthen your competences in this field?**

***REFERENTIAL BLOCK 2***

* *I am able to implement the methods and tools of research in my field of expertise*
* *I am able to implement the principles, tools and approaches for assessing the costs and financing of an innovation or R&D approach.*
* *I can guarantee the validity of the work as well as its ethics and confidentiality by implementing the appropriate control systems.*
* *I am able to manage the time constraints of study, innovation or R&D activities.*
* *I am able to analyse and identify the risks associated with a project.*
* *I’m able to implement the factors of commitment, risk management and autonomy necessary for the finalisation of an R&D, study or innovation project.*

# Skills Block 3: Valuation and transfer of the results

During the course of your thesis, you will be asked to promote your research work to certain scientific and/or professional communities. Valorisation can take a wide variety of forms and be addressed to diverse communities: scientific and technological communities, first and foremost; socio-economic actors including the public sector; students, trainees, technicians and auditors from socio-economic sectors; the media and various audiences unfamiliar with the field concerned.

The questions below will help you to better describe and assess your competence in "research exploitation".

## Have you produced and presented posters or oral communications at national or international conferences or congresses?

If so, under what circumstances, with whom, on what date?

## What lessons have you learned from your participation in these colloquia?

For example, what possible input for your own research ? What feedback did you get from your presentation ?

## Have you participated in the writing of one or more scientific publications in peer-reviewed journals? what was your exact contribution?

## Have you discussed deontological aspects around the composition and order of the list of authors of articles with your supervisors?

Are the rules of deontology of the publication clear to you?

## Have you discussed deontological aspects on how to thank the actors involved in your publications?

For example: technicians, trainees, collaborators, or funders? Are the rules regarding acknowledgements clear to you?

## Did you encounter any difficulties during the publication stage?

If so, how did you overcome them and what lessons did you learn?

## Have you promoted your results to the professional world?

How and where? What impact do you think these could have on the professional sector concerned? Describe.

## Have you contributed to technical or technological innovations for the economic sector concerned?

For example, have you contributed to a patent application or other forms involving intellectual property? If so, please specify your contribution.

## Have you participated in an expertise activity (collective or individual) on behalf of socio-economic actors or public decision-makers?

## Have you thought (with or without your supervisors) about the ethical aspects of your research project?

For example, how to take into account the contribution of collaborators, including former doctoral students, post-docs or trainees.

## Have you been confronted with questions of scientific deontology?

For example, what was your reaction when your experiments did not work or when you had unexpected and uninterpretable results?

Did you discuss scientific ethics with your supervisors?

Have you received training in scientific ethics and integrity?

## Are you interested in intellectual property issues, particularly in relation to your manuscript of these?

## Are you aware of the challenges of open data management in science?

For example sharing your data in resource centres, open data training, etc...

## What lessons can you draw from these experiences of research valorisation?

**Self-evaluation Block 3**

**Do you feel competent to valorise a research project?**

**Your self-assessment :**

I feel competent and autonomous ☐

I feel competent with help ☐

I don't feel competent yet but I'm making progress ☐

I don't feel competent and I doubt I can do it ☐

**Identified strengths and weaknesses :**

**What concrete actions do you plan to implement to strengthen your competences in this field?**

***REFERENTIAL BLOCK 3***

* *I’am able to implement transfer issues for exploitation and valorisation of results or products in economic or social sectors;*
* *I respect the intellectual or industrial property rules related to a sector;*
* *I respect the principles of deontology and ethics in relation to the integrity of the work and the potential impacts ;*
* *I am able to implement all the international publication systems that enable the exploitation of new knowledge and know-how;*
* *I am able to mobilise open data communication techniques in order to enhance the value of approaches and results*

# Skills Block 4: International science and technology watch[[2]](#footnote-2)

## Do you think you have mastered the basic knowledge, key concepts, their history and scope in your area of expertise?

## How well do you think you are aware of recent progress in your field of activity?

How do you take a critical look at this information?

## Have you already interacted and collaborated with experts from other disciplines or fields of activity than those of your doctorate?

If so, what lessons have you learned?

## Have you carried out scientific watch activities?

If yes, what tools did you use?

## How did you develop your scientific and professional collaborative network during these years?

If yes, what tools did you use?

**Self-evaluation Block 4**

**Do you feel competent for scientific monitoring?**

**Your self-assessment :**

I feel competent and autonomous ☐

I feel competent with help ☐

I don't feel competent yet but I'm making progress ☐

I don't feel competent and I doubt I can do it ☐

**Identified strengths and weaknesses :**

**What concrete actions do you plan to implement to strengthen your competences in this field?**

***REFERENTIAL BLOCK 4***

* *I am able to acquire, synthesise and analyse internationally advanced scientific and technological data and information;*
* *I have an understanding, hindsight and critical eye for all the cutting-edge information available;*
* *I am able to go beyond the boundaries of available data and knowledge by crossing different fields of knowledge or other professional sectors;*
* *I am able to develop scientific and professional cooperation networks on an international scale;*
* *I have the curiosity, adaptability and openness necessary to train and maintain a high level general and international culture.*

# Competence block 5: Training and dissemination of scientific and technical culture

## Have you contributed to enriching and disseminating the written scientific and technical culture?

For example, articles in non-specialised newspapers, daily or weekly newspapers, etc...

## Have you carried out oral interventions in media debate spaces?

E.g. "Café de la Sciences", radio or TV show, etc...

## Have you participated in events to disseminate scientific culture to the general public?

For example, "Fête de la Science", "European Researchers' Night", intervention with schoolchildren, participation in Podcasts, non-research activities of scientific mediation, etc...

## Have you participated in technological developments which have given rise to training sessions for students, trainees or technicians and other public and/or private research personnel?

If so, specify how and with whom you carried out this transfer of skills.

## Did you have the opportunity to teach during your thesis (supervision, vacations, etc.)? Did you receive any specific training in teaching?

**Self-evaluation Block 5**

**Do you feel competent for training and knowledge dissemination?**

**Your self-assessment :**

I feel competent and autonomous ☐

I feel competent with help ☐

I don't feel competent yet but I'm making progress ☐

I don't feel competent and I doubt I can do it ☐

**Identified strengths and weaknesses :**

**What concrete actions do you plan to implement to strengthen your competences in this field?**

***REFERENTIAL BLOCK 5***

* *I’m able to report and communicate in several languages on scientific and technological work for different audiences or publications, both in writing and orally;*
* *I’m able to teach and train a wide range of audiences in advanced concepts, tools and methods;*
* *I’m able todapt to a diverse audience to communicate and promote advanced concepts and approaches.*

# Skills Block 6: Management of teams dedicated to research and development, studies and foresight activities

## Have you had the opportunity to work with technicians, engineers, trainees, on your project?

How did it happen and what lessons did you learn from it?

## Have you been directly responsible for the supervision of a bachelor's, master's or other trainee?

If so, what experiences have you drawn from this framework?

## In the course of your present, have you had to seek help?

Specify on which aspects, at which times, with whom?

**Self-evaluation Block 6**

**Do you feel competent to supervise?**

**Your self-assessment :**

I feel competent and autonomous ☐

I feel competent with help ☐

I don't feel competent yet but I'm making progress ☐

I don't feel competent and I doubt I can do it ☐

**Identified strengths and weaknesses :**

**What concrete actions do you plan to implement to strengthen your competences in this field?**

***REFERENTIAL BLOCK 6***

* *Leading and coordinating a team in complex or interdisciplinary tasks;*
* *Identifying missing skills within a team and participating in the recruitment or solicitation of service providers;*
* *Build the necessary steps to foster the spirit of entrepreneurship within a team;*
* *Identifying key resources for a team and preparing changes in terms of training and personal development;*
* *Evaluating the work of individuals and the team in relation to projects and objectives.*

# ANNEX 1: Scale of levels of autonomy in the professional context

*"To be autonomous is to know how to set goals that can be achieved and to manage one's time and activities according to these goals within a larger whole that determines what is possible and what is not."*

|  |  |
| --- | --- |
| DEGREE | AUTONOMY/INITIATIVE |
| 1 | I receive simple oral or written instructions, linked to procedures, whose correct execution can be checked immediately. |
| 2 | I receive simple and precise instructions, linked to procedures. This requires basic initiative and is necessary to maintain the smooth running of the task. |
| 3 | I receive more complex instructions, linked to procedures. The activities are defined by a local supervisor. This requires simple initiative-taking to keep the task running smoothly. |
| 4 | I receive complex instructions based on procedures and operating methods that I have mastered. This requires a certain degree of autonomy within a well-defined framework. |
| 5 | I am able to make choices in the possible methods and strategies to achieve my goal. This requires relative autonomy; choices must be validated by a supervisor or other person authorised to validate. |
| 6 | I am able to organise and implement an action plan to meet the objectives set. This requires a high degree of autonomy. |
| 7 | I am able to initiate and decide on strategic directions and their organisation in order to meet the set objectives. This requires total autonomy. |

# ANNEX 2: Summary of training and skills acquired

|  |  |  |
| --- | --- | --- |
| Training courses attended | Skills acquired | Skills block |
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|  |  |  |

1. See Annex 1 referencing the different degrees of professional autonomy. [↑](#footnote-ref-1)
2. Scientific watch is a continuous and iterative activity aimed at actively monitoring the scientific environment by collecting, analysing and disseminating up-to-date scientific information published in journals, institutional websites, expert blogs, etc. It allows to improve one's knowledge or to anticipate strategic choices for a given objective. It allows one to improve one's knowledge or to anticipate strategic choices for a given objective. [↑](#footnote-ref-2)