

Itemm

Institut technologique européen
des métiers de la musique

> PÔLE
D'INNOVATION
artisanat et petites entreprises

LE MANS
ACOUSTIQUE

Recherche, Formation & Innovation en PAYS de la LOIRE

PRESS KIT

National innovation Cluster for craftsmanship in the music professions





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PRESENTATION OF THE NATIONAL INNOVATION CLUSTER FOR CRAFTSMANSHIP IN THE MUSIC PROFESSIONS

The Institut technologique européen des métiers de la musique (ITEMM) - the European technological institute of music professions - has been designated the "National innovation Cluster for craftsmanship in the music professions" by the French Ministry of Economy and Finance.

The development of the National innovation Cluster for the music professions is managed by a dedicated department of the ITEMM, centre of training for the technical professions of instrument making, the professions for the marketing of musical instruments, sound mixing and live performance. In 2019 the innovation Cluster team consists of two engineers, a communication and development officer, an apprentice and a post-doctoral fellow. The latter is available to the innovation Cluster in the context of a regional research project. The innovation Cluster's project is to support the development of instrument-making companies in France.

With the aim of developing synergies and cooperation around innovation within craftsmanship, the innovation Cluster plays a decisive role as an interface between the professional organisations representing the instrument-making industry in France, the permanent Assembly of trade and craft associations, innovation support structures and research centres and laboratories.

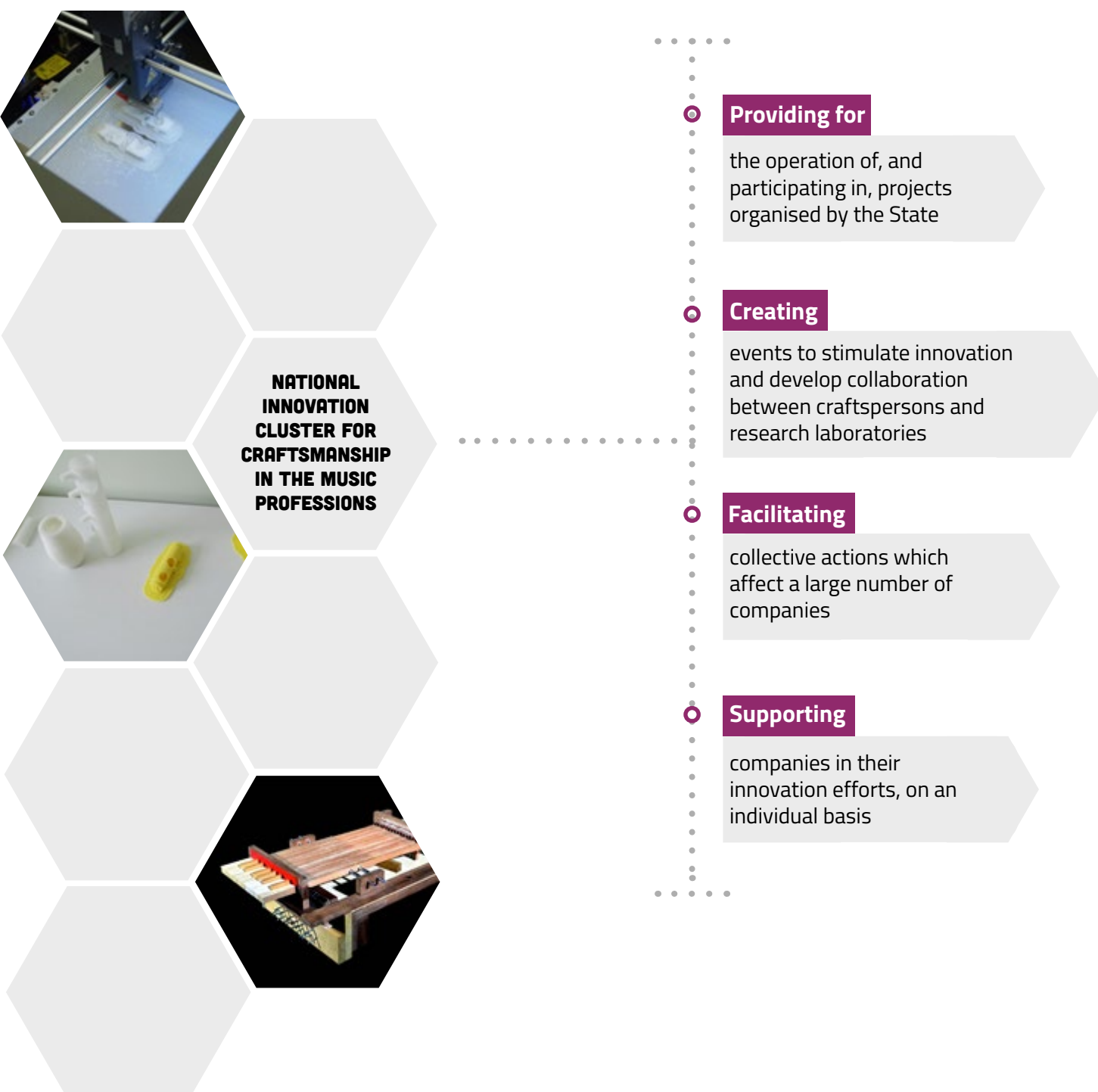
The innovation Cluster is guided by a Committee for Strategic, Scientific and Technical Orientation. This committee has been chaired since 2018 by Benoît Fabre, university professor at the Institut Jean le Rond d'Alembert - Sorbonne University. It is composed of representatives of professional organisations in instrument-making, research and innovation. Each year it provides guidance on the objectives and projects of the innovation Cluster for the music professions.

The innovation Cluster is a member of the Le Mans Acoustique (LMAc) regional consortium. This consortium which has a unifying role in terms of research, training and innovation in the area of acoustics and vibrations, has ambitions at an international level. The close collaborations established with the various parties in this consortium enable the innovation Cluster to reinforce its visibility and its skills in supporting companies in the instrument-making sector.



THE PROJECTS OF THE NATIONAL INNOVATION CLUSTER

The Cluster is working on four main projects for instrument-making professionals. These translate into a variety of activities:



THE FOUR OBJECTIVES OF THE INNOVATION CLUSTER

Developing and sharing innovative tools with and for businesses

The innovation Cluster acts as a shared research laboratory for the instrument-making sector. In this context, it deploys partnerships with laboratories in order to:

- understand the phenomena (acoustic, vibratory, material), an indispensable stage of their practical implementation,
- acquire new knowledge directed towards specific practical objectives,
- lead to the design of new tools,
- disseminate the results of the research work undertaken in these projects to the entire industry.

Several research and transfer projects are in progress, aiming, for example, to produce guitar sounds from physical measurements in order to provide a sound comparison tool to assist with lutherie - the making of stringed instruments - (a research laboratory, a postdoctoral fellow). Another is a project to use and appropriate new methods of analysis and to develop an online tool associated with a collaborative database (three international schools of lutherie, four companies, a research laboratory, two professional associations and two ITEM classes).

The innovation Cluster also has a collaborative platform for supporting instrument-making (PAFI). This platform helps with the design, understanding and repair of wind instruments. The online application performs calculations and stores user data securely. The users are craftspersons, researchers, musicians or students. This platform was established from close collaboration involving many partners, such as Le Mans University (LAUM), IRCAM, ESEO ANGERS, TELECOM PARISTECH and the Union Nationale de la Factice Instrumentale (UNFI) - National Union of Instrument-Making.

Preparing the industry for new uses, materials and processes

Through its activities the innovation Cluster aims to:

- develop technical expertise relating to materials and 3D printing, with the aim of proposing improvements in the skills of those working in the sector. 3D printing, an additive manufacturing process which allows the physical reproduction of an object from CAD data, is an innovative tool which can be used for musical instruments. The Cluster supports professionals with design projects incorporating this new process.
- identify innovations in areas related to the innovation Cluster, disseminate new practices and knowledge and foster collaborative innovation through the organisation of professional days or workshops by sector.

In this context, in November 2018 the innovation Cluster organised a round table to address the topic of materials in relation to their legislative (CITES), ecological, economic and technical aspects with the aim of initiating a collective reflection on current environmental changes in the companies in this sector.

The Cluster also organises an annual international workshop dedicated to violin acoustics, in partnership with Sorbonne University and European schools of lutherie. The next one will be held in Germany in April 2019.



Supporting businesses

With the “Designer in Residence” project, the company Parmenon, awarded the Entreprise du Patrimoine Vivant (EPV) - Living Heritage Company - label, has been selected by the Cluster and the ministry to receive financial assistance to help with integration design methods into a process of economic development. Parmenon and the designer Sébastien Prunier have created a protective case for flutes made from bio-sourced, recycled and recyclable materials.

The Cluster promotes innovation in instrument-making and supports companies with their technical projects. The harpsichord maker Thibault Guilmin, a 2017 graduate of ITEM, has created a harpsichord innovation with the support of the Cluster. It has been featured in ARTE tv’s cultural magazine programme (see the ITEM YouTube channel).

To ensure ongoing training for professionals in the sector and enthusiasts, the Cluster offers courses in musical acoustics in French and English, lasting from 1 to 5 days. The catalogue is available for download on the Cluster’s website.

The innovation Cluster’s laboratory provides various services to enable companies, students and researchers to take advantage of technology, and to be innovative and have discussions around a common project.

Communicating with its audiences

The communication division oversees relations with professionals, musicians and professional organisations in the sector as well as with the general public at local, national and international level.

During 2018 the Cluster took part in seven trade shows in France and Europe. In 2019, the Cluster will participate in Musicora Paris with the Pays de la Loire arts and crafts project and will organise the Musiques Anciennes with the Collegium Musicae. The Cluster will present its “Tools for instrument making” research projects at the ICSV26 (the International Congress on Sound and Vibration) in Montreal in July 2019 and at the 2019 ISMA (International Symposium on Musical Acoustics) in Detmold (Germany) in September.

Several annual events are organised in partnership with Europajazz, the Museums of Le Mans, the City of Le Mans, the Conservatoire and the ESBA-TALM school of fine arts. Meetings aimed at promoting innovation in instrument-making enable young craftspersons to evaluate and put forward their innovative initiatives in the presence of their end-users, the musicians. For the second edition in 2018-2019, the harpsichord, the trumpet, the guitar and the saxophone are the featured instruments.

A luthier-musician twinning project named “TWIN” started in September 2018. This partnership, established between the classical guitar class at the Conservatoire du Mans and the students in the final year of the ITEM Brevet des Métiers d’Art qualification (guitar option), aims to build a long-term relationship between future professionals from the craft and from the world of music. They meet throughout the year around the design and manufacture of a classical guitar, a final year project for luthiers in the making.



THE CLUSTER IN A FEW FIGURES (2018)

**€ 350,000
annual budget**



4 individuals



**8 sessions of ongoing
annual training**



30 days of training



**15 research, transfer,
dissemination and
innovation projects**



**7 trade shows and
specialist conventions**



**60 companies
helped in France
and Europe**



THE PEOPLE INVOLVED IN THE INNOVATION CLUSTER: THE TEAM

Marthe CURTIT

research engineer in musical acoustics

An acoustics engineer, Marthe also develops tools to assist with instrument-making with research laboratories and professionals in the areas of wind instruments, stringed instruments and bows. She designs and supervises acoustic research on the basis of feedback from the instrument-making industry.

Jérémy CABARET

PhD in acoustics and research engineer

A PhD in acoustics, Jérémy manages projects dedicated to 3D printing and new manufacturing technologies, participates in the research projects of the innovation Cluster and provides training in musical and electro-acoustic acoustics for students in the ITEM.

Aline ANGELI

communications and partnership development officer

Aline promotes the Group's projects both internally and externally and supports the team with its development projects. She develops and mobilises a partnership network to foster cross-disciplinary synergies. She designs and puts into practice institutional and event communication initiatives and plays an active role in researching, applying for and monitoring European funding.

Natacha GRAUER

apprentice engineer in acoustics and vibration at the ENSIM

Her involvement with the innovation Cluster relates to her training in apprenticeship at the Ecole nationale d'ingénieur du Mans (ENSIM) - Le Mans National School of Engineering - and Natacha participates in the innovation Cluster's applied research projects, drafts scientific articles and updates, and is improving and distributing a tool to help with instrument-making specifically for bows in 2019.

CLUSTER PARTNERS AND RELATIONS



Institutions

- Institut Supérieur des Métiers (ISM)
- Le Mans Acoustique
- Le Mans Innovation
- Ministère de l'Économie et des Finances
- Mission Métiers d'Art Pays de la Loire
- Pôle d'Innovation - ATEN
- Pôle d'Innovation - CERFAV
- Région Pays de la Loire
- Relais Culture Europe
- Europe Créative
- Société Française d'Acoustique (SFA)
- Georges Stoppani, luthier chercheur UK

School of lutherie

- CEGEP Limoilou, Québec, Canada
- Centrum voor muziekinstrumentenbouw, Belgium
- Conservatorio Juan Crisóstomo de Arriaga de Bilbao Spain
- École de lutherie Guitare Bruand, Montréal, Canada
- École de lutherie, Hallstatt, Austria
- The Luthiers Center (TLC), Bulgaria
- Staatliche Musikinstrumentenbauschule Mittenwald, Germany
- Université de Gand, École des Arts, Belgium

Research laboratories

- Cité de la musique - Philharmonie de Paris
- École Centrale de Nantes
- FEMTO-ST, Besançon
- IRCAM
- Laboratoire d'Acoustique de l'Université du Mans (LAUM)
- Laboratoire de Mécanique et d'Acoustique (LMA), Marseille
- Laboratoire de Mécanique et Génie Civil (LMGC), Montpellier
- Sorbonne Université, Paris
- University of Ljubljana, Slovenia

Professional associations

- Groupement des Luthiers et Archetiers d'Art de France (GLAAF)
- Association Professionnelle des Luthiers artisans en Guitare et autres cordes pincées (APLG), France
- Chambre Syndicale de la Facture Instrumentale (CSFI), France
- European Guitar Builder (EGB), Germany
- International Federation of Musicians (FIM), France
- PEARLE, Brussels
- Union Nationale de la Facture Instrumentale, France (UNFI)

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EuroPiano France ■ Chambre Syndicale de la Facture Instrumentale ■ Chambre Syndicale des Métiers de la Musique ■ Union Nationale de la Facture Instrumentale ■ Groupement des Spécialistes en Instruments à Vent ■ Association des Luthiers et Archetiers pour le Développement de la Facture Instrumentale ■ Groupement des

Luthiers et Archetiers d'Art de France ■ Association Professionnelle des Luthiers Artisans en Guitares et autres Cordes Pincées ■ Confédération des Petites et Moyennes Entreprises

Le centre de formation d'apprentis des métiers de la musique de l'ITEMM bénéficie du soutien de la Région des Pays de la Loire et de l'Europe (Fonds Social Européen).

L'ITEMM appartient au réseau Enseignement Supérieur Culture du Ministère de la Culture.

