



PROGRAMME ASSESSMENT

Bouneweger Lycée Luxembourg

**BTS DESSINATEUR ET CONSTRUCTEUR SUR MÉTAL  
(NEW NAME: METAL DESIGN)**

Final report submitted to the Ministry of Research and Higher  
Education on 27 February 2025

Programme Assessment

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(NEW NAME: METAL DESIGN)**

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# 1 Executive Summary

This document reports on the programme assessment of the BTS 'Dessinateur et constructeur sur métal' of the Bouneweger Lycée Luxembourg. To assess the demand for reaccreditation of the programme, an international expert panel was convened by the Accreditation Organisation of The Netherlands and Flanders (NVAO) on behalf of the Ministry of Research and Higher Education of Luxembourg.

The panel studied the documents submitted by the Bouneweger Lycée in its application for reaccreditation, looked at additional study material during the on-site visit and discussed the state of play of the programme with a variety of stakeholders at the Bouneweger Lycée on November 7<sup>th</sup>, 2024.

The BTS programme 'Dessinateur et constructeur sur métal' (further DCM) was accredited by the Luxembourg authorities following an initial assessment in 2015 and a reaccreditation in 2020. The current demand for accreditation introduced by the Bouneweger Lycée comprises a request for accreditation of the BTS programme under a new name, BTS 'Metal design'.

The written materials and the discussions have convinced the panel that the BTS 'Dessinateur et constructeur sur métal', eventually to be renamed as BTS 'Metal Design', fulfils the criteria of the framework for programme assessment.

The panel has seen that the ambitions and profile of the BTS DCM are set high at level 5, in order to prepare students well for a wide spectrum of roles and responsibilities in a sector that is itself composed of divergent types of companies with different needs. The panel is positive about the level and composition of the programme. Theory and practice are well-balanced and relevant. The panel considers it a strength of the BTS to allow students to obtain the International welding specialist (IWS) qualification as an extra to their level 5 degree BTS DCM.

At the same time, the panel is convinced that the BTS could benefit more from the motivated workfield representatives to strengthen the involvement of the sector in the programme. A more structured dialogue of the dedicated team of teaching staff with the workfield could bring added value for a stronger profiling and benchmarking of the BTS, as for safeguarding well-designed modules with up-to-date and relevant course contents, that allow the BTS to position itself better as 'the degree' that delivers those highly skilled, technical professionals, much needed in the sector.

The panel understands that the programme suffers from an overall lack of attractiveness of technical profiles and a lack of clear understanding with regard to the BTS level. Low numbers of students that enrol in the programme and high drop-out rates are sources of concern that need an action plan from the management side. The panel advises to better inform potential candidates on possibilities to obtain credits for past experience. Given the high drop-out rates, the challenge is to evolve to a clear student-centered approach in teaching the programme. The panel also advises to adopt a more active tutoring with regular feedback loops to follow-up students' progress and allow timely remediation where needed.

In sum, the panel concludes that the quality of the BTS programme 'Dessinateur et constructeur sur métal' has been demonstrated in a verifiable manner for the assessment areas 1 'Aims and objectives of the study programme', 2 'Admission, evaluation, certification', 3 'Implementation of the programme' and 4 'Quality assurance measures. Further to the assessment rules of the Luxembourg authorities, the panel concludes that the programme **meets** all the assessment criteria for programme accreditation.

Consequently, the panel recommends a positive re-accreditation conclusion.

Assessment area		Judgement
1	Aims and objectives of the study programme	MET
2	Admission, evaluation, certification	MET
3	Implementation of the programme	MET
4	Quality assurance measures	MET
<b>Overall judgement</b>		<b>Positive re-accreditation advice</b>

The Hague, 3 February 2025

On behalf of the international expert panel charged with the programme assessment of the Bouneweger Lycée for the BTS 'Dessinateur et constructeur sur métal', to be renamed as BTS 'Metal design'.

Yoneko Nurtantio  
Chair

Anja Detant  
Secretary

## 2 Introduction

The Ministry of Research and Higher Education of Luxembourg (MESR) requested the Accreditation Organisation of the Netherlands and Flanders (NVAO) to carry out a programme assessment of the 'Brevet de technicien supérieur' (BTS) 'Dessinateur et constructeur sur métal', that the Bouneweger Lycée is offering.

The BTS programme 'Dessinateur et constructeur sur métal', is the only BTS programme offered in the Bouneweger Lycée. The programme was accredited for the first time in 2015 for a period of 5 years.

Given the features of the accreditation request, the NVAO convened an international panel of experts consisting of:

- Ms Yoneko Nurtantio, Belgium, chair;
- Mr. Dominique Declerck, Belgium, member;
- Mr. Christian Cortina, Luxembourg, member;
- Mr. Thomas Mignauw, Belgium, student-member.

The composition of the panel reflects the expertise deemed necessary by NVAO for this accreditation exercise. Short CVs of the panel members are provided in annex 1 (5.1).

The underlying assessment report provides the findings, considerations and conclusions of the panel on the BTS programme offered by the Bouneweger Lycée: 'Dessinateur et constructeur sur métal', to be renamed as BTS 'Metal design' - that is the object of this procedure for accreditation. The observations of the panel on the quality of the BTS programme are described according to the 4 assessment areas and the assessment criteria of the Assessment Framework for programme accreditation of the BTS. The Assessment Framework comprises the criteria under the Higher Education Law of 21 July 2023 of Luxembourg, which creates the legal basis for the short-cycle programmes leading to the Brevet de Technicien Supérieur (BTS), offered by the Lycées.

The panel carried out the assessment, after which the Board of NVAO will make a recommendation to the Ministry of Research and Higher Education of Luxembourg. Based on NVAO's conclusion, the Minister will take the final decision on the reaccreditation of the BTS programme 'Dessinateur et constructeur sur métal', now proposed under a new name as BTS 'Metal design'.

To arrive to its assessment, the panel studied the application documents and submitted its first impressions on the materials prior to the preparatory panel meeting, which was held online on October 28, 2024. The site-visit in the Lycée took place on November 7<sup>th</sup>, 2024. The panel talked to the management of the Lycée and the programme, as well as to teaching staff, students, alumni and representatives of the professional field. The schedule of the visit is presented in annex 2 (5.2). Annex 3 (5.3) lists the materials made available by the programme before and during the site visit.

Immediately after the discussions, the panel formulated its considerations and preliminary conclusions. These are based on the findings of the site-visit and build on the assessment of

the documents. The external secretary then drafted the advisory report and circulated it to all panel members for review and feedback. The panel report was validated by the chair and submitted to the Bouneweger Lycée for comments on factual errors. The Ministry of Research and Higher Education in Luxembourg also received the report for a check on factual errors. Following this review, a final report was prepared and submitted on behalf of the panel to the NVAO Board, which in turn will send its conclusion to the Ministry of Research and Higher Education in Luxembourg.

### 3 Programme assessment BTS ‘Dessinateur et constructeur sur métal’, to be renamed as BTS ‘Metal Design’

#### 3.1 Aims and objectives of the programme

Assessment area 1 is detailed in the following assessment criteria:

- a) The programme complies with the provisions relating to programmes leading to the BTS, as defined in Title II<sup>1</sup>.
- b) The programme has a **coherent curriculum** which reflects the programme’s intended **learning objectives** and the **learning outcomes** to be achieved by the student. It is broken down into **knowledge, specific skills, and transversal skills**.
- c) The programme is defined in accordance with **European standards** and the Bologna Process. It is defined in terms of **ECTS credits**.
- d) The programme is **divided into modules**, each of which is awarded a certain number of ECTS credits. Each module is made up of one or more theoretical or practical units, known as "**courses**". Each course carries a minimum of one ECTS credit and a maximum of 20 ECTS credits. The objectives and learning outcomes of each module and course are clearly defined.
- e) The **workload** is appropriate and balanced between semesters.
- f) The **ratio of theoretical to practical teaching** is consistent with the programme’s objectives.
- g) **For each module** of the programme, the appropriateness of the **workload**, the types and methods of **assessment** and the intended **learning outcomes** are determined and documented in relation to the **level 5** descriptors of the Luxembourg Qualifications Framework, in accordance with the amended Law of 28 October 2016 on the recognition of professional qualifications<sup>2 3</sup>, and in relation to the number of ECTS credits allocated to each module of the programme.
- h) Programmes preparing for **regulated professions** within the meaning of the amended Act of 28 October 2016<sup>4</sup> on the recognition of professional qualifications **comply with the legislative and regulatory requirements governing the regulated profession concerned**. This compliance is established by means of a detailed **report drawn up by the competent minister responsible** for the profession concerned. This report is a **mandatory part** of the accreditation file.

The BTS programme ‘Dessinateur et constructeur sur métal’ (further DCM), which is proposed by the Bouneweger Lycée to be renamed as BTS ‘Metal design’, is a 2 year programme of 129 ECTS designed to train technicians in the domain of metal construction, that aim to work as technically skilled professionals and can be employed both in small enterprises of the metal craft sector and in industrial companies in Luxembourg.

Graduates should be able to deal with the technical aspects of drawing and designing constructions in metal (be it doors, windows, staircases, railings, ... as well as big metal structures to support and build halls, etc.); they should be equipped to handle the technical preparation of a project, to ensure the coordination and control of the manufacturing process and assembly of metal constructions. In addition, the BTS graduates should be proficient in

<sup>1</sup> [https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#title\\_2](https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#title_2)

<sup>2</sup> <https://legilux.public.lu/eli/etat/leg/loi/2016/10/28/n2/jo>

<sup>3</sup> [https://legilux.public.lu/eli/etat/leg/loi/2016/10/28/n2/jo#art\\_69](https://legilux.public.lu/eli/etat/leg/loi/2016/10/28/n2/jo#art_69)

<sup>4</sup> <https://legilux.public.lu/eli/etat/leg/loi/2016/10/28/n2/jo>



handling financial and legal aspects of the work, know how to manage a team, acting as project managers and eventually as business leaders in the domain.

The programme takes into account the specificity of Luxemburgish companies and in particular the linguistic situation. The holder of the BTS DCM must be able to communicate professionally in French, German and Luxembourgish. This is why the vehicular language of the courses differs between these languages.

The panel had some questions on the necessity to master English language skills, especially for those who would want to work in bigger companies with a more international orientation. Though the workfield has divergent needs in this regard, the level of English did not appear as a crucial factor for the attractiveness and employability of the BTS graduates. While proficiency in English could support a more international orientation, so far the options of the management and curriculum team for the BTS have been focused on adapting the program to evolving technical requirements and craftsmanship, integrating technological developments for the sector in the curriculum and adapting content to prepare students to eventually take up project management roles. The panel has seen a demonstration of this ambition in recent evolutions of the content of the BTS, such as the development of a new course about Building Information Modeling (BIM), which is a usefull addition to the program.

The BTS programme integrated in its objectives and curriculum structure also the training of International welding specialist (IWS) in cooperation with the 'Centre National de Formation Professionnelle Continue' and the 'Deutscher Verband für Schweißtechnik', who can deliver the official degree. The panel agrees that it is a strength of the BTS to allow students to obtain the IWS qualification as an extra to their level 5 degree BTS DCM, which makes them even more attractive for the sector.

The panel had initially some questions on the documentation file, in particular with regard to the expected learning outcomes and the way these have been translated in the curriculum modules and course contents in terms of theoretical knowledge, practical and technical skills, and professional and behavioural competencies that students are expected to master by the end of their study.

The panel has seen that the ambitions and profile of the BTS DCM are set high at level 5, in order to prepare students well for a wide spectrum of roles and responsibilities in a sector that is itself composed of divergent types of companies, ranging from smaller artisanal firms, over planning and engineering offices, to big industrial and more internationally oriented construction companies. These offer a variety of functions and have a broad scala of needs to be fulfilled. The panel sees that defining a sharp profile with clear learning outcomes for this wide variety of potential positions is a challenge. The panel nevertheless encourages the BTS management to engage further in this exercise, in close cooperation with the workfield (see further).

Based on the information received and the exchanges during the site-visit, the panel confirms that the BTS program clearly meets the demands of the sector. The BTS is a technically ambitious and practical oriented study program at level 5, in which 3 complementary types of internships (orientation, workshop and office) are integrated, followed by the students' 'graduation project'. The practical assignments, the internships and the graduation project

prepare students for different tasks in the sector. To the panel, there is a good balance of theoretical and practical modules and courses and, overall, the workload is reasonable and well distributed. The panel is also positive about the objectives to deliver a programme with sufficient academic content and professional practice.

Given the broad and diverse roles and tasks that can be taken up by a graduate of the BTS and the specific needs and profiles, the panel sees that the BTS needs to make a number of choices and aims to set the conditions to prepare students for continued learning and development in the workfield (e.g. English proficiency, if needed to be improved through the workfloor experience; proficiency in computer design and drawing (AutoCAD and other programmes ...).

In order to have a sharp and attractive profile to potential students, including a clear label for the BTS, the panel recommends to reflect together with the workfield on certain choices made for the programme (e.g. level of mathematics needed; safety aspects for the sector to be more explicitly integrated in the curriculum (both operational safety as safety design aspects); environmental matters (toxic products, waste management, etc.); objectives of the artistic module) and bring good variety in the type of assignments (semester projects, groupworks, etc.).

In the exchanges on the rebranding of the programme into BTS 'Metal design', opinions were confused. The panel notes that there is some reservation from the workfield representatives as to whether the new name corresponds to the programmes' objectives and content. The term 'design' can be understood in several ways that do not necessarily correspond to what the BTS stands for. The panel heard some alternatives from the workfield (e.g. 'Technicien supérieur en métal', 'Technician in metal construction', ...) and encourages the management to listen to these ideas before rebranding the programme.

The panel is convinced that a more structured dialogue with the workfield could bring added value, both for a stronger profiling and benchmarking of the BTS, as for safeguarding well-designed modules with up-to-date and relevant course contents at level 5, that allow the BTS to position itself better as 'the degree' that delivers those highly skilled, technical professionals, much needed in the sector.

To conclude, that panel is positive about the aim and objectives of the program. This is ambitiously set high at level 5, and clearly corresponds to the needs of the sector. The profile of the BTS deserves some more reflection in order to attract more students to a difficult field. The panel encourages the management and staff to reflect in a dialogue with the workfield on the overall structure and composition of the curriculum, and adapt content where possible (e.g. level of mathematics might be above level 5, level of theory to be reconsidered, more practical assignments, ...), this also to avoid unnecessary hurdles in a level 5 programme, and high drop-out of students.

## Conclusion

The panel found that the programme meets the underlying assessment criteria of this assessment area 'Aims and objectives of the programme'. The panel therefore concludes that for this assessment area 1 the quality of the programme has been demonstrated in a verifiable manner.

## 3.2 Admission, evaluation, certification

Assessment area 2 is detailed in the following assessment criteria:

- a) **The Lycée publishes**, in a clear, precise, and up-to-date manner, **information on its BTS programmes**, the **respective status** of its programmes with regard to accreditation, the **admission requirements** for the various programmes, **the enrolment fees**, the **total cost** to be expected per programme, **the curriculum** for the programmes offered, the **intended learning outcomes** and the **qualifications** leading to said programmes.
- b) The **admission requirements** for the programme of study are clearly defined and published. The modalities of potential **entry examinations** must be published 3 months in advance.
- c) The procedure for the **validation of prior learning or experience** are clearly defined, in accordance with the provisions of Article 11<sup>5</sup>.
- d) **Assessment methods** are defined in relation to the learning objectives and are designed to verify the achievement of the programme's intended learning outcomes.
- e) **The assessment methods** applied in the various modules and courses are clearly **communicated** to the students.
- f) **The degree shall comply with the provisions** of Article 26(2)<sup>6</sup>, and shall be **accompanied by a supplement** complying with the provisions of Article 26(3)<sup>7</sup>.

### Admission

The Bouneweger Lycée disseminates information on the BTS DCM to potential students via its website and through a brochure. The admission procedure and formal (diploma) requirements for candidates wishing to enrol in this programme are clear. Also, the procedure for the validation of previously acquired experience (validation des acquis de l'expérience, VAE) is clearly outlined.

Yet, the panel finds it surprising that the VAE procedure has never been applied. It also noticed that students with previous experience in higher education were not aware of the possibilities to get former experience acknowledged and use previously obtained credits. This point deserves attention. The VAE procedure could be explained more to enrolled students, and be promoted more explicitly to attract good candidates with relevant study and work experiences, that might be hesitant to enroll in the BTS.

The panel learned that the Lycée sets a maximum of 16 students that can enroll in the first year of the programme. The programme bases its admission policy on a screening of the personal file, the motivation and educational background of the candidates; it has set up a procedure to test the levels of German, French, mathematics and physics of potential students in case of doubt. The profile of enrolling students shows a diverse background (most students enroll with technical education, some have a general secondary background) (secondaire classique/enseignement général). Although fewer students enroll with a general secondary background, it is primarily these students who ultimately succeed in completing their diploma. The BTS programme also appears to be the 'second' best choice for students who tried a regular bachelor level, but decide to switch to a less theoretical and more technical oriented higher education programme.

<sup>5</sup> [https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#art\\_11](https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#art_11)

<sup>6</sup> [https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#art\\_26](https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#art_26)

<sup>7</sup> [https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#art\\_26](https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#art_26)

The panel discussed with the management and teaching staff the difficult position of the BTS as the only level 5 programme offered in the Bouneweger Lycée. Low numbers of students that enrol in the programme and high drop-out rates are sources of concern that appear difficult to remediate, but need an action plan from the management side.

The panel understands that the programme suffers from an overall lack of attractiveness of technical profiles and a lack of clear understanding with regard to the BTS level. During the site-visit the panel has been able to see a recent promotion video that was produced for the BTS DCM, and that gives a clear and realistic idea of the goals of the programme and the professional perspectives for graduates. This is a very positive approach to attract students.

The panel has also learned that the Bouneweger Lycée intends to launch another level 5 programme, that could support the overall positioning of the BTS in the Lycée and increase critical mass for having a community of students at level 5, that can exchange and support each other. The panel encourages the management to undertake all possible efforts to ensure that a sufficient number of motivated students enroll and that drop-out is maximally prevented. It invites the management and staff to consider how it could better support its students, so that they are more likely to successfully complete the programme. Creating enough critical mass to have a real community of level 5 students in the Lycée could possibly support these efforts.

### Evaluation

The panel established that the programme's assessment organisation is valid. It has seen a well written description of the assessment methods used at course levels and the validation rules at module levels. From the documentation received, it appears that the assessment methods include continuous assessment, written examinations at the end of a semester, oral presentations and practical projects.

However, following the exchanges during the site-visit a more uniform picture appeared with semester and final exams as main evaluation forms. In practice, evaluation methods could be more diversified. The panel sees room to reinforce continuous evaluation and use this as a tool for closer monitoring progress of students, taking timely remediation measures to keep them on track and to prevent drop-out.

Given the importance of the internships as a pedagogic instrument, students are assessed on different aspects of their learning on the workforce, applying theory to practice. The assessment also includes reporting by the student, and a final report and presentation to close their internship. The initiative of the BTS to let students present their work done in the companies during dedicated afternoon-sessions ('Après-midi stages'), where tutors and representatives from the workforce are invited, is a good example of learning from the other. It is also a formula that generates integration of theoretical knowledge, practical assignments and workforce experiences and allows to discuss evolutions on the workforce for upcoming BTS graduates.

Throughout the internships, the students are supervised by their company trainers ('tuteur en entreprise') and a member of the BTS teaching staff that acts as their tutor for the full duration of the BTS programme. Both play a role in the final grades that the student will receive for the respective internships. Though the documentation is comprehensive, in

practice students and workfield could be better informed on the way the company trainers are involved in the final grades that are given.

The panel discussed with the teaching staff how the level of assessment is set for the BTS profile. How is it ensured that the learning outcomes are reached beyond the level of the individual courses and modules?

It is clear to the panel that the teaching staff has great autonomy in defining the level of difficulty for the exams of a given course. The teaching and examination levels are considered, revised and fine-tuned following informal discussions amongst teaching staff and exchanges in the 'groupe curriculaire'; revisions are also done in response to the exchanges and experiences with the companies where students do their internships or their graduation project. The graduation projects are diverse, as the companies in which they have been carried out are also quite different. These range from industry to craft businesses and have varying requirements from a complexity point of view. The panel was surprised by the high level of mathematics, calculations, and formulas they contained. The panel found the technical drawings to be generally sufficient. In conclusion, the panel finds that the level of the projects is appropriate for a level 5 qualification.

In addition, teaching staff refers to feedback loops in the analysis of the results of assignments and exams to take decisions to modify the tempo and/or adapt the level of teaching and examination.

The panel values the reflection of the teaching staff on the level of examinations, to ensure that all the competencies that are expected at the end of each course and module are reached; it also appreciates the efforts of the teaching staff to accommodate students where possible (e.g. providing a French language copy of an exam as a 'courtesy translation' for an assessment that is officially in German). Yet, the panel encourages the 'groupe curriculaire' to have a more structured approach to review and define the right evaluation levels. The panel also advises to re-examine the grid used to assess internships.

In sum: the panel sees room to improve the evaluation methods and reinforce continuous evaluation of students. Given the high drop-out rates, the panel urges the programme management to undertake action, closely follow-up on students' progress, evaluating and monitoring their performance, taking remediation measures where needed, allowing them to grow and obtain the required end-levels. The panel hereby advises to reflect on the needs for the diverse profiles in the sector and to examine whether the learning objectives for the mathematics courses should not be reset (downsized) to fully fit level 5 (see also above, 3.1.).

### Certification

The diploma and supplement are compliant with Luxembourgish law.

### Conclusion

The panel found that the programme meets the underlying assessment criteria of this assessment area 'Admission, evaluation, certification'. The panel therefore concludes that for this assessment area 2 the quality of the programme has been demonstrated in a verifiable manner.

### 3.3 Implementation of the programme

Assessment area 3 is detailed in the following assessment criteria:

- a) The programme **has sufficient resources in terms of teaching staff and financial and material means** to meet its specific needs and achieve its objectives. These resources are available throughout the entire duration of the programme.
- b) The Lycée has **appropriate infrastructure** to offer the proposed programme and enable its students to do achieve the intended learning outcomes.
- c) Teaching is provided by a **teaching staff that is competent** from a didactic and pedagogical point of view and capable of relating teaching to professional practice in the field concerned and to current research. Teaching is student-centred and encourages active student participation. The suitability of each of the professional profiles of the available and planned teaching staff is clearly demonstrated in relation to the programme's objectives and its intended learning outcomes.
- d) The **proportion between teachers appointed in the Lycée and external contractors** is appropriate to the objectives of the curriculum, it being understood that the **proportion of lessons provided by external contractors may not exceed the threshold of 40% set in Article 9(2)<sup>8</sup>**.
- e) **Continuing training programmes** are provided for teaching staff.
- f) In the case of alternate programmes, the school has a specific and compulsory **training programme for the trainers who deliver the practical teaching modules in the workplace**.
- g) Students benefit from appropriate supervision and full information. A **tutoring programme** is offered to students.

The panel encountered a competent teaching staff involved in the BTS DCM, with relevant background (engineering, economics,...) and a great motivation to teach on the BTS level. The BTS DCM has sufficient and adequate resources for teaching the programme.

The integration of external experts in the programme is very relevant and the panel considers this as a particular strength to keep at pace with evolutions in the sector and the needs on the workforce. From the exchanges, the panel however concludes that in the daily practice of the BTS programme this integration of external sector experts and guest lecturers could be strengthened. It also recommends that the teaching staff would be maximally involved and present when external lecturers are invited, to be fully up-to-date and integrate the knowledge and external practice in their own continuous learning path.

The BTS teaching staff also acts as tutors that guide and monitor students throughout their studies and serve as the primary liaison between the companies and the teaching staff. Though lines between students and teaching staff are short and groups are small, regular feedback moments are not structurally built in the programme. Given the high drop-out rates, the panel advises to revisit the tutoring system and to adopt a more active tutoring with regular feedback loops to follow-up students' progress and allow timely remediation where needed.

The panel appreciates the actions taken by the staff to accommodate student needs, but is of the opinion that a stronger 'student-centered learning approach' that takes students'

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<sup>8</sup> [https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#art\\_9](https://legilux.public.lu/eli/etat/leg/loi/2023/07/21/a470/jo#art_9)

experiences and background as starting point in the programme, could strengthen the BTS and increase its success rates.

Students facing personal issues that impact their academic work can access the psychosocial services (Service psycho-social et d'accompagnement scolaire (SePAS)). This is positive. In terms of other support services for secretarial tasks, pedagogical aspects, communication of the programme, quality assurance, etc. the teaching staff of the BTS undertakes great efforts. It is however obvious that additional resources and staff with the right expertise for these support services to the BTS programme would be welcome. The launch of a second BTS in the Lycée might offer opportunities to create additional capacity and better ensure the support services needed.

At the same time, the panel was impressed by the infrastructure that is available. The Lycée Bouneweger is very well equipped to accommodate the programme's needs. The panel has visited modern and up-to-date workshops with excellent infrastructure and machinery for practical classes. The BTS programme also benefits from dedicated classrooms. A digital learning programme is not available, but the use of TEAMS-environment appears to be sufficient to cover information and communication needs for the programme.

In addition, the 'Centre National de Formation Professionnelle Continue CNFPC' and 'GSI - mbH / Niederlassung SLV Saarbrücken' offer material and tools that is needed for students to obtain the specialist degree in welding (IWS). From the exchange with students, it appeared to the panel that the Bouneweger Lycée could do more to facilitate students' training in practical terms (with regard to mobility, hours of the classes), so as to obtain this additional degree without too many hurdles.

In sum, the BTS DCM has adequate resources and excellent infrastructure and machinery. The teaching staff is very competent, motivated and ambitious to run the program at a high standard in level 5. The integration of external experts as guest speakers and lecturers in the programme is a particular strength to keep at pace with evolutions in the sector. In practice, the workfield could be involved more in the teaching, in closer link with the regular teaching staff of the BTS. The panel sees room for improvement in the programme implementation, by opting for a clear student-centered learning approach. In addition, given the high drop-out rates, adopting a more active tutoring with regular feedback loops could help to better follow-up students' progress and allow timely remediation where needed.

### Conclusion

The panel found that the programme meets the underlying assessment criteria of this assessment area 'Implementation of the programme'. The panel therefore concludes that for this assessment area 3 the quality of the programme has been demonstrated in a verifiable manner.

### 3.4 Quality assurance measures

Assessment area 4 is detailed in the following assessment criteria:

- a) **The Lycée ensures the collection, analysis, and use of relevant information for the effective management and continuous improvement of its BTS programmes.**
- b) The Lycée has a **quality assurance system** for its BTS programmes, which it makes **publicly available**. The quality assurance procedures applied by the Lycée **comply with** the requirements of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).
- c) **The programmes are regularly subjected to internal evaluation to ensure that they take into account the latest research and didactic developments in the relevant field, achieve the intended learning outcomes, and meet the constantly evolving needs of students and society.**
- d) The Lycée maintains regular and formalised **exchanges with professional circles in the Grand Duchy of Luxembourg** related to its BTS programmes.
- e) **Responsibilities, competencies, and decision-making processes related to the BTS programme are defined clearly and transparently.**
- f) **Teachers and students** have sufficient means to express their positions and **participate** in decision-making through representation in various bodies and committees.
- g) In the case of an application for the **reaccreditation** of a programme, it is demonstrated to what extent, and through which means, actions, and decisions **the Lycée has taken into account the recommendations outlined** in the evaluation report and the accreditation decision of the previous period.

The quality assurance system set-up for the BTS DCM is based on a number of indicators inspired by a study by the European University Association, that is however outdated and, in view of the panel, not the most adequate for the BTS programme.

The 'groupe curriculaire' also experimented with the Common Assessment Framework (CAF) (employing the PDCA-cycle) of the EFQM, as a method to manage the overall quality of the programme. However, given the limited resources for quality assurance in the BTS, the full implementation of the CAF method for the BTS DCM has not been feasible. Instead, the BTS DCM regularly conducts surveys among students and companies with whom it works together. The programme offers its students also a possibility to anonymously send in feedback at all times, by use of a QR-code that is displayed in the classrooms.

The panel learned for the exchanges that the programme management discusses informally with companies and teaching staff to gather feedback on various aspects such as programme content, internships, course workload and the support provided by the programme. In addition, the programme management keeps regular contacts with the Fédération CBM. All this information enables the BTS DCM to adapt different elements of the programme to meet evolving requirements.

The panel is positive about the efforts done by the programme management to evaluate and manage the quality of the programme. The panel appreciates that there is a great willingness for delivering quality and offering an ambitious vision of the BTS level. However, the panel is convinced that the programme could gain from a more structured and formalised approach and reporting lines to ensure overall coherence and quality of the programme. A clear and sharp vision on what the BTS is and wants to offer to potential students, could also support the efforts to get more students enrolled.



The BTS DCM currently suffers from limited resources and critical expertise in quality assurance to implement the QA system that it started setting-up. To the panel, the organisation of a new BTS programme in the Bouneweger Lycée must be taken as an opportunity to remedy the situation and strengthen the efforts to come to a fully-fledged and adequate QA system for the BTS programmes in the Lycée. Rethinking the allocation of hours for quality assurance tasks by the staff of the BTS could be beneficial, also to allow the BTS programme to adequately adapt to changes in the workfield and be prepared for the future. The panel recommends to train the staff responsible for QA of the BTS on how to apply a quality assurance system to higher education, especially for small-sized programs.

Last, the panel encourages the BTS DCM to nurture a culture of participation and to involve students as 'partners' in the development of the programme. The panel is positive about the ideas of the 'groupe curriculaire' to engage in a more structured way with alumni of the BTS and the wider workfield. It encourages the management to facilitate this initiative to bring together alumni and workfield with staff and students around certain topics that are relevant for the BTS DCM and for the professional developments in the sector.

To conclude: the necessary efforts are done by the programme management to evaluate the quality of the programme and involve students and employers in this exercise. The BTS DCM however suffers from limited resources and critical expertise in quality assurance to implement the QA system that it started setting-up. The organisation of a new BTS programme in the Lycée Bouneweger could be an opportunity to strengthen the efforts to come to a fully-fledged QA system for the BTS programmes in the Lycée.

### Conclusion

The panel found that the programme meets the underlying assessment criteria of this assessment area 'Quality assurance measures'. The panel therefore concludes that for this assessment area 4 the quality of the programme has been demonstrated in a verifiable manner.

## 4 Judgement

Following the comprehensive investigation into the quality of the BTS Dessinateur et constructeur sur métal (to be renamed as Metal Design), the panel concludes that the programme meets all four assessment areas. Consequently, the panel recommends that the NVAO takes a positive accreditation conclusion.

The panel has seen a programme that is ambitiously set high at level 5, and clearly corresponds to the needs of the sector. The programme is balanced and the ratio of practical assignments and internships is well appreciated, both by students and employers in the sector. The BTS programme integrated in its objectives also the training of International welding specialist (IWS) in cooperation with the 'Centre National de Formation Professionnelle Continue' and the 'Deutscher Verband für Schweißtechnik', who deliver the official degree. This makes graduates of the BTS DCM even more attractive for the sector.

The panel has learned during the site-visit that the programme management is working on a rebranding of the BTS programme. It appears to be challenging to make choices in the curriculum that is offered, given the broad and diverse roles and tasks that can be taken up by graduates of the BTS DCM, and also depending on the type and size of companies active in the sector.

The panel encourages the management to reflect in a permanent and more structured dialogue with the workfield on the overall positioning of the programme, and the structure and composition of the curriculum. It suggests to adapt content where possible to avoid unnecessary hurdles, reconsider the very high level of mathematics for example, and to more explicitly integrate aspects of operational safety, safety design and relevant environmental matters in the programme.

The BTS DCM has adequate resources and excellent infrastructure and machinery. The teaching staff is very competent, motivated and ambitious to run the program. The integration of external experts as guest speakers and lecturers in the programme is a particular strength to keep at pace with evolutions in the sector; this connection could be exploited more to define how to modify the programme to accommodate to evolving needs in the sector. The enthusiasm of the workfield and the engagement with companies could also help to reflect on the rebranding of the programme, targeting higher numbers of students with the right profile and motivation.

The panel sees room for improvement in the programme implementation, by opting for a clear student-centered learning approach. In addition, given the high drop-out rates, adopting a more active tutoring with regular feedback loops could help to better follow-up students' progress and allow timely remediation where needed. Also, more should be done to inform and apply the validation of prior learning and experience for students who would be entitled to a transfer of credits.

With regard to the quality assurance system, relevant actions are taken to regularly involve students and workfield in the evaluation of the programme. However, a more structured approach is needed, with more resources dedicated to QA. In the eventuality that the Lycée gets the chance to set up other BTS programmes, the panel would encourage the Lycée to

take this opportunity to rethink the support structures and expertise needed to establish a fully-fledged QA system for the BTS programme.

Consequently, the panel recommends a positive re-accreditation conclusion.

<b>Assessment area</b>		<b>Judgement</b>
1	Aims and objectives of the study programme	MET
2	Admission, evaluation, certification	MET
3	Implementation of the programme	MET
4	Quality assurance measures	MET
<b>Overall judgement</b>		<b>Positive re-accreditation advice</b>

## Annex 1 – Composition of the panel

- Ms. Yoneko Nurtantio, (chair), consultant in internal quality assurance in Higher Education, social entrepreneur, speaker on sustainability, and trainer in work efficiency, former policy advisor at Agence pour l’Evaluation de la Qualité de l’Enseignement Supérieur (AEQES);
- Mr. Dominique Declerck, lecturer in Technology, involved in launching qualification level 5 programmes in VIVES University College;
- Mr. Christian Cortina, Owner/ Managing Director D'Schlässerei S.a r.l.;
- Mr. Thomas Mignauw, student bachelor in construction, VIVES University College.

The panel was supported by:

- Ms. Anja Detant, secretary trained and certified by NVAO
- Ms. Veerle Conings, NVAO process coordinator

All panel members and the secretary have signed a declaration of independence.

## Annex 2 – Schedule of the site visit

Time	Programme
08.15-08.30	Panel arrives at Lycée
08.30-09.20	Meeting with management of the Lycée and programme manager
09.20-09.35	Closed panel meeting/break
09.35-10.30	Meeting with groupe curriculaire/support staff
10.30-10.45	Closed panel meeting/break
10.45-11.35	Meeting with teaching staff
11.35-11.40	Closed panel meeting/break
11.40-12.30	Light lunch and closed panel meeting
12.30-13.00	Tour of the facilities (rooms for handicraft lessons)
13.00-13.30	Closed panel meeting/break
13.30-14.30	Meeting with employers and alumni
14.30-14.45	Closed panel meeting/break
14.45-15.30	Meeting with students
15.30–16.00	Backup time: meeting with programme management
16.00-17.00	Closed panel meeting
17.00 - 17.30	Mutual dialogue program management and panel regarding the findings of the day.
17.30	End of day

## Annex 3 – Documents reviewed

- Accreditation file
- Annexes to the request for accreditation
  - Analyses des étudiants
  - Sondages
  - Documents des débuts (2015)
  - Plan d'études
  - Documents de stage
  - Réglementation portant sur la formation BTS
  - Diplôme et son supplément, divers ...
- Additional information provided by the Lycée Bouneweger
  - Rapports de stage – Internship reports
  - Travaux de fin d'études – diploma theses
  - Course materials
  - Evaluation grids

## Annex 4 – Abbreviations used

BTS	Brevet de Technicien Supérieur
CAF	Common Assessment Framework
DCM	<i>Dessinateur et construire sur metal</i>
ECTS	European Credits Transfer System
EFQM	European Foundation for Quality Management
EQF	European Qualifications Framework (EQF)
IWS	International welding specialist
VAE	<i>Validation des acquis de l'expérience</i>
PDCA-cycle	Plan, do, check, act-cycle

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## Colophon

Bouneweger Lycée Luxembourg  
BTS Dessinateur et constructeur sur métal (New name : Metal Design) (LU05A-24)  
Programme Assessment

Final report submitted to the Ministry of Research and Higher Education on 27 February 2025



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