



F'SATI
French South African Institute of Technology

**MANAGEMENT RESPONSE TO THE EVALUATION OF THE
FRENCH SOUTH AFRICAN INSTITUTE OF TECHNOLOGY (F'SATI)**

2017

1. Assignment Title

Review of the French South African Institute of Technology (F'SATI) for the period January 2008 to December 2015.

2. Management Response to the Review Report

When the Review Report was looked at for the first time, a number of inaccuracies or misinterpretations in the report were identified¹. While these inaccuracies are noted, the focus of this Management Response will be with regard to the recommendations that conclude the review report.

The Review report concludes with a series of 9 recommendations to improve the future functioning of F'SATI.

2.1 Recommendation 1: It is recommended that F'SATI continues to receive support from DST/NRF and from the French sources for its academic mission.

2.2 Recommendation 2: It is further recommended that the two Universities of Technology continue to employ F'SATI for the development of their post graduate courses and their research, and that funds are provided for the purpose.

Management Response

The first two recommendations emphasize the value of the F'SATI program and the importance of the programme in supporting the South African institutional partners. The review clearly highlighted the impact the programme has had on the development of human capacity within the South African system of higher education and with staff capacity development. As the programme evolved within the current institutional partners, it has become a vital part of the postgraduate programmes within each institution.

2.3 Recommendation 3: It is recommended that the main elements of the unique structure, of combined French and South African courses of F'SATI, is retained when the new degree structure is implemented irrespective of whether it will be within a dual or a joint degree system. The system should still enable students who start with technikon-type courses to later switch to a more academic stream if they are so inclined. Close contact with DHET in such matters is recommended. Also an invitation to a DHET representation on the F'SATI board is recommended.

¹ The interested reader is referred to the Annexure to this document to view all comments that have not been fully taken into account

Management Response

The remaining recommendations that are made in the review report directly affect the strategy and governance of the Institute and, as such, must be dealt with by the Institute's Board of Directors.

The third recommendation deals with pedagogical changes required within the programmes proposed in order to remain compatible with the constraints of the South African higher education system. This aspect has already been studied in detail within the team and the preservation of the particular pedagogical elements that underlie the originality of the programme (in terms of, among other things, a more theoretical approach) is, of course, one of the major concerns of actual reflections of the review report.

The invitation of a representative of the DHET to participate in the meeting of the Executive Management Board, as proposed by the reviewers, is a perfectly feasible option. It would make it possible to verify even before their implementation that the options envisaged are, precisely, compatible with the policy of the Department of Higher Education, so as a first step we can invite a representative of the DHET at the next Advisory Management Board to be held in Cape Town on November the 17th.

2.4 Recommendation 4: It is recommended that careful extension of F'SATI be considered by the inclusion of new member institutions in both countries on a case by case basis.

2.5 Recommendation 5: In the same way the extension to a broader set of topics should be considered with the proviso that some specific cohesion is retained.

2.6 Recommendation 6: It is recommended that student numbers be increased substantially through communication and marketing, and that the throughput needs to be improved, and that it be recorded and analysed more closely.

Management Response

The above three recommendations relate to the growth of the Institute, which, while strongly encouraged, must be fully mastered in a context of the limited resources of the programme. On the academic side, the extension to a third French partner (the University of Montpellier), which would strengthen the space science and technology niche area constituted at CPUT is envisaged in a very near future (the Vice President of the university attended the last Executive Management Board as an observer).

On the South African side, two Universities of Technology, Durban University of Technology (DUT) and Central University of Technology (CUT), have expressed interest, as well as the Nelson Mandela Metropolitan University (NMMU). The two universities of technology would be favoured by the DST and the NRF. However, the

approach of NMMU is also very interesting insofar as it shows a reasoned approach and that its industrial environment could position it in a niche that is complementary to the niches already occupied by TUT and CPUT. In addition, there are strong synergies between CPUT and NMMU in the maritime domain.

In addition, it was proposed during the last Executive Management Board (EMB) to construct (for potential South African partners) a virtual F'SATI in order to facilitate access to the resources constituted by the French partners. This should also enable our current academic partners to maximize the value of existing resources. It is important to note that on a small scale this already applies for some modules for the benefit of students who cannot attend the courses at the University.

Lastly, with regard to the development part of marketing, the CCIR-PIdF proposed during the last EMB to finance a position devoted to this issue for a fixed period of two years.

2.7 Recommendation 7: With the understandable restrictions of NRF on bursaries for foreign students, F'SATI should start a new initiative to secure specific sponsorship for well qualified African students, so that it can do justice to its stated mission of contributing to African development.

2.8 Recommendation 8: It is recommended that sponsorship be sought for many more advanced research students to visit French sister institutions, particularly for those students who have no other means to do so.

Management Response

The following two recommendations mainly concern auxiliary funding for non-South African students as well as funding for F'SATI students wishing to take stays in France (or more widely in Europe). On the first point the question remains open and if all the options are considered, there are no obvious solutions. Concerning the second point, the French academic partners have made considerable efforts over the last two years to obtain European funding allowing F'SATI students to spend periods of time in France (such as the Erasmus programmes for mobility). Although the long-term sustainability of these funding mechanisms is not assured, the current situation is a real improvement over that considered in the review report. It will, of course, be necessary for our French partners to ensure some form of recurrence in this field.

2.9 Recommendation 9: In complex organizations tensions and disagreements are bound to occur. It is recommended that specific structures to resolve these quickly are put in place.

Management Response

Finally, with regard to the last of the recommendations, it is important to point out that the F'SATI programme has gone through evolutions over the past years. During 2012, the institute governance was reorganized. This led to the establishment of a Board of Directors and the Scientific Council of the Institute chaired by the Scientific Director of the Institute. Undoubtedly, their functioning is not sufficiently satisfactory at present. It is therefore incumbent upon the operational management of the Institute, and in particular the Scientific Director, to ensure that these two structures properly fulfil their role to provide resolution of specific problems faced in the Institute.

Annexure Additional comments to the Review Report

This annexure contains comments to the initial report that have not been fully taken into account in the final report.

Page 8, paragraph 4.2, the following sentence:

Three of the students were preparing to work on projects related to computing and Quantum computing within Space Science, and they were not F'SATI students.

They are indeed F'SATI students and receive NRF support through F'SATI. They are not registered for the dual Master's programme, but only for the CPUT MEng.

Page 9, paragraph 4.3, the following sentences:

Because of the comments about the difficulties for the management, which appeared in the self-evaluation document, the question was posed as to who had written that and what this really means. It was said Prof van Zyl had written it, but others confirmed its content.

Prof Rocaries was in fact the principle author of the report, but in agreement with the other Directors. It is important to elaborate on these *difficulties*. As discussed during the interview, the management difficulties relate to the *structure* of F'SATI at CPUT that is not sufficiently autonomous. Addressing this, an Institute will be formally created within the existing CPUT policies, whereby the Institute will function autonomously, while collaborating cross-functionally across Departments, Faculties and other future institutes. The Institute will also be able to present its own qualifications, and hence, ensure the sustainability in terms of subsidies (teaching and research output). CPUT is in the process of registering this Institute with a high level of support from Management.

Page 10, paragraph 4.3, the following sentence:

Also the alignment of the core of the French courses needs more attention.

The core courses at both nodes have been aligned since 2013/14 in an attempt to rationalise resources.

Page 10, paragraph 4.2, the following sentence:

Recently, the presentation for MSc courses at CPUT had stopped due to lack of funding

This is factually incorrect. Admittedly a small number of courses have been offered over the past two years but the offering of the MSc courses has not stopped. The

limiting factor was student intake, but this has been rectified in 2017. Funding is not the primary reason for the offering of fewer courses.

Page 10, paragraph 4.2, the following sentence:

Last year student bursaries were paid out very late.

It should be noted that this was due to reasons outside of the control of F'SATI. Late payments in the second semester were due to Fees Must Fall, which meant that operations at CPUT were severely hampered during the last term of 2017.

Page 10, paragraph 4.2, the following section:

On the question of why CPUT fails to manage to "grow its own timber" in the same way as TUT did, he pointed the differences between the situation of the two UTs, with CPUT having more expertise in a greater variety of departments.

To correct this statement, it should not be understood that CPUT has more expertise in more diverse areas as TUT. But CPUT is indeed growing its own timber at an institutional and departmental level. When F'SATI was established at CPUT, there had already been other strong research groups within the Department and Faculty. Hence, 'growing its own timber' occurred across a wider range of departments and centres. The statement that CPUT has more expertise in a greater variety of departments than TUT is somewhat misleading. It should be understood that, whereas F'SATI at TUT overarches most of the research in the Department of Electrical Engineering, it is not the case at CPUT. F'SATI at CPUT hosts the CPUT satellite programme within the Department of Electrical Engineering, but formally collaborate internally with a number of Departments and centres within the Institution.

Page 10, paragraph 4.2, the following section:

The lack of integration between practical engineering projects on commercial basis and academic programmes was also discussed. Prof van Zyl reckoned that this was a difficult matter and he explained how it developed historically. It was expensive to keep ten engineers in the system. The investment in the IP was very large and it would need to be developed. In the end this situation could very well result in a smaller academic group. All of this is contrary to one of the recommendations of the previous evaluation, which warned against having too large a commercial involvement. The profits from the commercial activity should in fact be plough back into enriching the academic programme.

This section creates incorrect impressions of the holistic programme at CPUT. Historically, the engineering effort has evolved into the production and support of our commercial products. But *all* production of commercial products has been outsourced, and CPUT has engaged SANSA and DST to spin out a commercial entity to focus on the commercialisation of CPUT IP. CPUT is approaching this sensibly and definitely not in haste. CPUT has therefore indeed responded to the recommendation of the

previous review to a great extent. The remnants of commercial activity within the group relates to product *support*, which is also being outsourced. What is true is that the engineering team is focussed on operational mission development. The complexities of the development of such missions must not be underestimated and requires the engineers and engineers-in-training to be completely focused on their daily tasks and less so on mentoring and involving students in their work. This needs to be bridged so that students benefit more from engaging directly with the engineering team. What was stated during the review is that the engineering (professional development) phase should be *balanced* with a comparable effort at student level. This is impaired by research capacity, which is being addressed by replacing the SARChI Research Chair and through the establishment of a cross-departmental Institute.

Note: NO profits are declared from sales. ALL revenue is reinvested in the engineering team, infrastructure and running costs that also include the academic phase of F'SATI. Student projects in space engineering are inherently expensive.