

Vacancy DSL Physical Layer Architect

Alcatel-Lucent and DSL

As the world leader on DSL (Digital Subscriber Line) access products, with a market share of 38%, Alcatel-Lucent is far ahead of the competition. With DSL as key differentiator in the Alcatel-Lucent DSLAM product line, the Alcatel-Lucent experts continuously stretch the products beyond the innovative boundaries of today's technological challenges.

Antwerp is the DSL headquarter of Alcatel-Lucent, housing the R&D centre of excellence, working in a world-wide product context. Over one decade, Alcatel-Lucent has built a strong team of expert engineers developing these state-of-the-art DSL products. This has caused a revolution in the world of communication: High Speed Internet access did become communality. VDSL2 is bringing the telecommunication in yet another era where broadband video application is a fact.

The introduction of triple play service over DSL, being a mix of data, voice and video, is however a real challenge for the DSL technology. Quality requirements are stretched to their limits.

Alcatel-Lucent's DSL Experts Team

The DSL Experts Team at Antwerp groups the people of Alcatel-Lucent with an expert level know-how of the DSL physical layer, and has the mission to come with solutions to enable triple play over DSL. Activities of the team are concentrated around following work packages:

- **Define new DSL physical layer technology:** the DSL experts perform innovative studies in order to keep the leading position in the DSL world. Acquired know-how must lead to achieve best possible DSL technology which answers customers needs, and will result in best-of-class performance, cost controlled interoperability, low power operation, and a feature set allowing to transport 3-play. This know-how also allows Alcatel-Lucent to steer all DSL standardization bodies. DSL variants as ADSL2, ADSL2plus, SHDSL, and VDSL2 are handled, as well as advanced features and challenging techniques on top of those, as e.g. SmartDSL and Crosstalk cancellation.
- **Introduce new DSL physical layer technology into Alcatel-Lucent's products:** starting from the standardized or new invented technologies and features, DSL experts perform implementation feasibility studies and steer DSL chipset suppliers and Alcatel-Lucent's DSLAM development teams in order to get world-leading DSL products.

- **Work with customers, to enable new DSL physical layer technology in the field:** deploying triple play over the DSL physical layer requires specialized know-how, which is rarely present at the operators. So the DSL experts come with guidelines towards operators on how to deploy these new technologies. At the same time DSL experts need to invent and define innovative toolboxes in Alcatel-Lucent's access products, which allow the operator to control the DSL physical layer for triple play in an optimal way.

Job description

Your job in the DSL Experts Team will be a mixture of activities, related to one or more of previously mentioned domains, in line with your skills and your wishes to expand your skills:

- Through a mix of theoretical studies, conceptual simulations, and proof-of-concept emulation testing, you will come with solutions to further improve the DSL physical layer in order to increase its quality when transporting high demanding services as video and audio. Involvement in standardisation activities is possible.
- Through your papers or by customer visits, you will advise the customers on how to design and deploy DSL physical layer networks in an optimal way, in line with their deployment rules and requirements. Your expert level consultancy can be asked for in dedicated workshops with customers as well.
- Your technical knowledge on DSL physical layer combined with your communication skills will make you the right profile to steer DSL chipset suppliers and project teams. As such, you will be involved in :
 - Feasibility studies to find optimal way to integrate new DSL technology or features into Alcatel-Lucent's access products
 - Discussions with DSL chipset suppliers to direct them towards Alcatel-Lucent's challenging roadmap. In support of this, you will write and maintain a detailed requirement specification.
 - Steering and supporting Alcatel-Lucent's development teams to assure that the new technology is implemented in line with requirements you have set.
 - Being the technical expert to judge in discussions between DSL chipset suppliers and Alcatel-Lucent's development teams.

You will get the possibility to participate to standardisation activities. Surrounded and assisted by technical and marketing colleagues, conceptual studies which you will participate to, will give you the power to translate vague customer requirements into standards for next generation DSL technology. Your DSL expert know-how will allow you to lead discussions on new DSL technology proposals with competition and customers in international standardisation bodies. You will use your technical and political communication skills to defend the position of Alcatel-Lucent, and to get Alcatel-Lucent's patents in future DSL products.

Your profile

Required qualifications and/or experience:

- Master level degree in telecommunications, informatics, mathematics, electronics, or physics
- Experience in project working is a plus
- High interest or experience in digital signal processing and simulation tools
- Experience in DSL technologies is a plus but not a hard requirement

Required skills and attitudes:

- Willing to acquire in-depth DSL technology know-how
- Ability to think conceptual and analytic
- Feeling a challenge to work on the physical layer
- Creativity to come with alternative technical and process solutions are of prime importance
- Ambitious and driven
- Independent and sense for initiative
- Eager to steer chipset suppliers and development projects by means of your technical know-how
- Being a team player and communicator, good in handling technical discussions between different teams
- Willing to work also in lab for verification through measurements
- Able to build a bridge between chipset suppliers and developing teams
- Able to express ideas and vision in a powerful and concise way, both verbally and on paper
- Fluent in English.
- Fast assimilation of new technologies
- Willing to travel for consultancy task or standardisation (if applicable)