

Lapland UAS and smart use of natural resources

Seppo Saari, Editor, D.Sc. (Tech.), Head of R&D, School of Industry and Natural Resources, Lapland University of Applied Sciences

Lapland UAS and the Regional Council of Lapland clearly share similar views and goals when it comes to the utilisation of Lapland's nature and natural resources. This became clear when I saw the column written by Mika Riipi for this journal. I had finished writing my editorial and noticed that the emphases of its contents matched those of his column. I was delighted, even though I had to rewrite my editorial.

One of the areas of emphasis of the Lapland UAS strategy is Smart use of natural resources. We are currently preparing a strategic implementation plan wherein the theme connected to the smart use of natural resources is the development of Arctic production.

One of the three development projects we selected is mining and industrial services. Back in the early days, industrial companies did everything themselves. The Kemi company was the father of industry in Lapland. There were logging sites all over Lapland. The mill provided its employees with accommodation, shops and canteens. Much of the food was produced at the mill's own farm in Loue; today, it serves as a unit of Vocational College Lappia. With time, the mill started outsourcing certain tasks, starting with deliveries and simple subcontracting work for renovations. Over the years, outsourcing has expanded to extremely challenging services and system deliveries that require special expertise. The lion's share of the jobs has been outsourced, but it has also enabled service operators to expand their market beyond Lapland. Special expertise is essential because even local competition is now global. We are strongly involved in this work, and want to be even more strongly involved. We can serve the competence needs of companies in the field with degree programmes, further education and training as well as research and development activities. The RDI teams of the School of Industry and Natural Resources play an important role in the latter. We can support the development work of companies with applied research on topics like maintenance, materials technology, mineralogy, energy technology, construction engineering and forestry as well as ICT, Internet of Things, Industrial Internet and Big Data.

Another focus point is the Arctic circular economy and side streams. High-volume industry also creates large side streams, which is why the importance of the circular economy is constantly increasing. Practical applications as products or energy sources can be found for a significant share of the side streams that used to be disposed of as waste. A good example is Outokumpu's Okto aggregate, which necessitated some changes to the processes before it could be productised. On a slightly smaller scale, mills have long utilised the excess wood raw material generated during manufacture. However, there is still much left to do. There are also the material streams generated by agriculture and communities. Most often, the activities require the co-operation of several parties. We make similar contributions in this area as we do in mining and industrial services. We are also committed to providing a large module from which students can widely select. The expansion and advancement of the competence of our personnel are also connected to this.

Although we utilise our natural resources industrially in Lapland, we do it in a sustainable way. Our nature has plenty of room for other activities. It serves tourism, the collection of natural raw materials (such as picking berries, mushrooms and herbs) and wellness. Lapland UAS operates in all those areas. We have selected Green Care as the third area of emphasis for the next few years. This means using natural products and the natural environment to promote wellness.

We have worked on all three areas for a long time now, and we also constantly develop our competence. However, we have not established new degree programmes or RDI teams for the subject areas; instead, we include things into existing training programmes and support the development of these three areas of emphasis in companies with the top expertise of our RDI teams. There are development programmes, which the teams and training programmes support for their parts. We aim to recognise future needs and opportunities in co-operation with companies and strive to do our share to meet them. New technologies and operating methods are already rapidly changing things: the Internet of Things, Big Data, cloud services, practical applications of the social media, growing computing power, imaging methods, expert systems, new materials, new operating methods, open systems, new kinds of interfaces – they are already here, but much will also happen in the coming years.

The thematic articles in this issue discuss the use and welding of technical special steels, construction (such as CLT) and energy issues from different perspectives. The virtualisation of forests for education using information technology is also included. Development and the learning environment also get their share. Other topics include Green Care, wild herbs and harvesting organic natural products as well as many other interesting topics. I wish you a pleasant read and I thank the County Governor for his column.