SIG IT16 - Information Technology

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Agriculture of today is mainly influenced by an increasing use of electronics. Besides information technology, process control gains more and more importance in farm management. Furthermore, new ideas are changing the production methods of the past. Electronics is able to reduce the workload of the workforce and allows work to be more precise. Precision Farming seems to be the farming of tomorrow with the possibilities of feeding the world population and protecting the environment. But electronics means information, information processing and it means communication. Therefore:

- electronic farm communication (SIG IT16) is one of the most important challenges of today and tomorrow

  and
- systems management, ergonomics and safety (SIG IT21) will play a new role with new requirements and solutions.

Within EurAgEng, information technology is is a subject well worth discussing, stimulating and developing. There are different subjects:

Needs of the farmers and the industry

At this time, there are only some very rough ideas of a farm of tomorrow. Together with IT, there are no existing definitions of the needs of the farmers and/or of the farm machinery producers. Therefore:

- this topic requires basic discussions as well as basic scientific investigations
- regional situations and requirements may be of importance
- small scale and large scale land use systems should be taken into account.

Systems management

Electronics creates systems for information gathering, information processing and process control. Human work will change by the reduction of heavy manual work to more and more mental work. The mental work itself is then more or less the control of fully automated processes. Therefore:

- system engineering gets more and more important
- system management of automated and semi automated processes is a new task of farmers and farm labourers
- man-machine interfaces should be adopted to new technologies and optimised for fast and safe reactions.

Communication standards

Today some communication standards are available. On the national level, Europe established four important standards:

- Signal connector for tractors (DIN 9684/1 and ISO 11786)
- Animal identification (ISO 11787)

Electronic farm communication today

- ADIS, the *Agricultural Data Interchange Syntax* (ISO 11785)
- LBS, the *Landwirtschaftliches BUS-System* (DIN 9684/2-5)

On the international level now the USA is very active, especially in the field of the tractor-implement control (ISO 11783/1-11). New standards are in development like the proposed BUS-System for livestock farming (DIN, Germany) and others.

Information distribution

Also in the age of electronics, information distribution is still one of the problems and this is also true within EurAgEng. There are:

- still members of EurAgEng without email-address
- a lot of interested but not active members
- active working groups without any contacts to the board of EurAgEng
- workshops on electronic farm communication or related topics with very restricted invitation lists.

Objectives and Strategy

After very strong mailing activities some years ago with only low responses from European colleagues, the time and also the state of the art now have changed. There is the Internet on the one hand and there are available electronic communication standards for the on-farm use on the other. Both should be the nucleus for the definition of objectives and the working strategy of the Special Interest Group.

Objectives

Starting from the present situation some initial objectives should be set to make sure that they can be fulfilled within a reasonable period of time. The most important ones are:

- Introduction of interested EurAgEng members to their chosen SIGs during the membership registration
- Installation of an internet discussion panel
- Information distribution on existing electronic communication standards.

Strategy

At this time we start with the definition of an IT web site. It will be located at the department server and linked to the EurAgEng web site. The first design has been tested and will be available soon. After this first step, it is necessary to include the definitions of existing communication standards. Links to the distribution networks should be installed and available literature about the standards should be collected and provided.

Finally, we should try to activate the chairmen of the standardization working groups to report on their activities and the sub-ordinate targets they have reached.

Unfortunately, there is no responsible representative for system management, ergonomics and safety at this time in EurAgEng. Thus, all feasible efforts have to be undertaken to overcome this absence. Perhaps it will be possible to establish a link from EurAgEng to CIOSTA, initiated by the management board of EurAgEng. This organization could either contribute with their activities in the two year conference cycle or it could contribute as a special interest group.