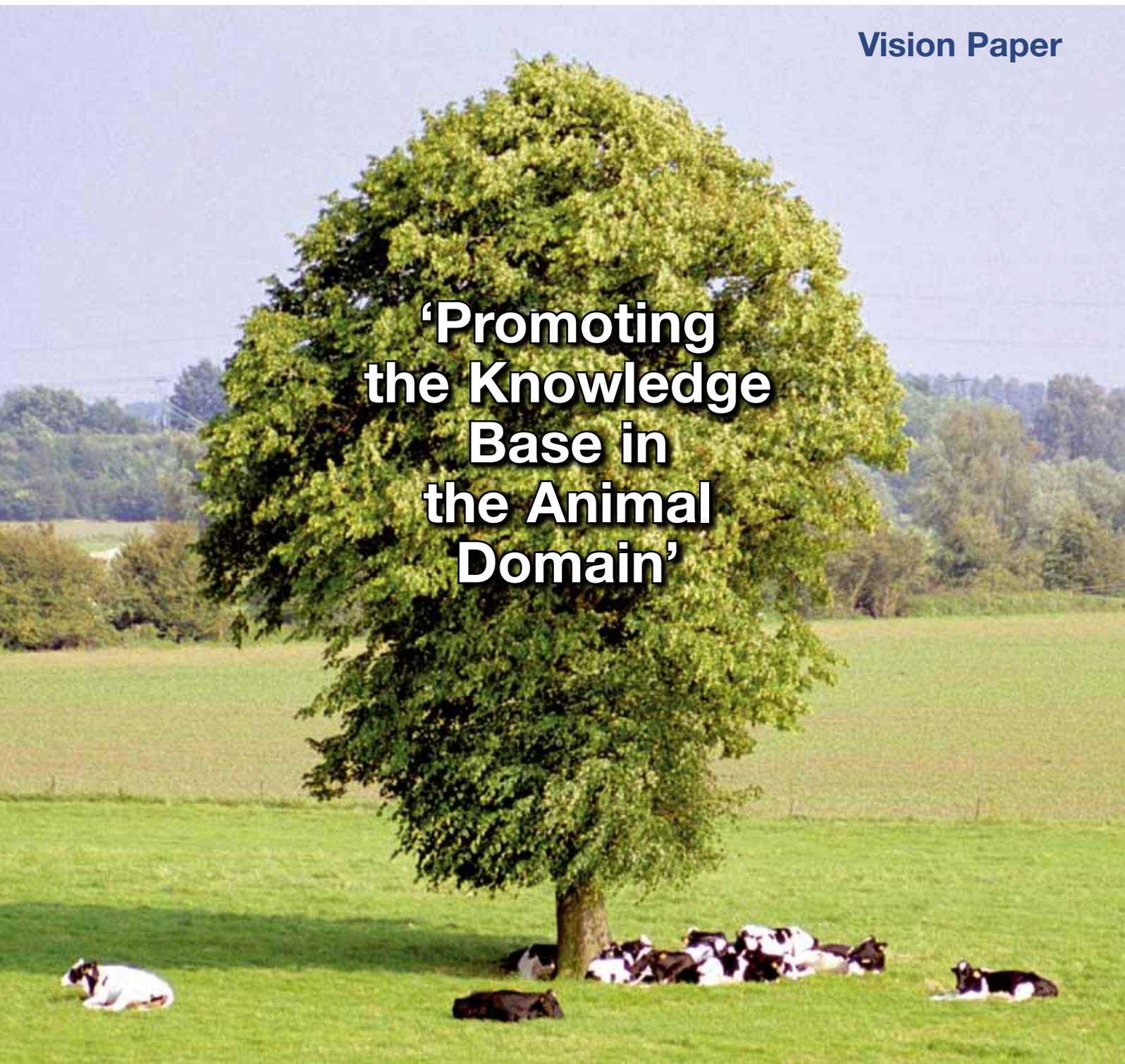


Vision Paper

**‘Promoting
the Knowledge
Base in
the Animal
Domain’**





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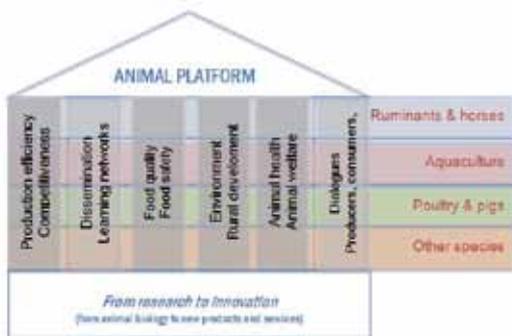
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The Animal Task Force

The Animal Task Force (ATF) is a group of actors working together for a sustainable and competitive animal sector at the forefront of technological development and other innovations. We aim to achieve an enabling environment and the adoption of an integrated approach across the value chain. This cooperative initiative is made up of European bodies concerned with knowledge and industry in animal production: Technology Platforms, knowledge, education and dissemination organisations, and research providers. These are the major public and private components of European livestock production which together aim to provide a positive image of the entire sector, and facilitate discussions on matters relating to future EU regulations that affect the sustainability and competitiveness of the sector.



ATF aims to mobilise resources from governments and industry for collaborative research on overarching themes in the livestock and companion animal sectors. By providing an enabling environment, knowledge transfer from the research base to the end users will be improved, and ATF will also promote lifelong learning for this production sector. ATF aims to build a reputation as a source of expertise for industry, policy makers and European institutions, and at the same time it will raise the profile of the Technology Platforms and work with them towards their objectives.

ATF spans the major components of animal production and unites terrestrial and water-based production systems, thus it will build coherence amongst its associated technology platforms to ensure sustainable, balanced and competitive animal production in Europe. Its broad base

will provide the knowledge and experience to foresee changes in the demand for livestock production focussing particularly on food quality and safety, animal health and welfare and also environmental concerns. In addition, the animals at the heart of the various and diverse production systems must

be healthy, balanced and robust with respect to commercial and societal concerns and demands.

We believe that the farmers and the supply industries in Europe will benefit from a joint approach to fund the research necessary to improve the quality and safety of the products, find answers to the challenges posed by global climate change, and meet demands for environmentally-friendly, balanced production systems.

The areas of science encompass farm animal biology and management related sciences: development of new and adapted technologies and concepts, up to the viable implementation in the companies and farms serving animal production. This unique structure can carry out one vital task - anticipate to innovate. It regroups some of the major research players and will bring in more creative talent; it links to the private sector via the

TPs, creating a critical mass of talent, creativity and practical know-how reposing on a strong and growing research base. In all questions related to this sector, ATF acts as a major consultancy whose opinions are worthwhile because they depend on the strongest and most representative base of experts within Europe.

The importance of our sectors, in EU and in the world

With over 56 % of the population in the 27 Member States of the European Union (EU) living in rural areas, which cover 91 % of the territory, the animal production sector is a key activity providing employment for hundreds of thousands of our citizens. The value of this production at the farm gate was 152 billion Euro in 2008, but the overall contribution of this sector to the European economy is much greater as it supplies other sectors such as food processing, catering and tourism that generate considerable added value. Furthermore, past research has helped to create new technologies, adding further value, and reinforcing the competitive edge of the industry. Examples of this are the veterinary pharmaceutical industry, the animal breeding industry, the animal feed industry and the aqua-farming sector.

¹ In this paper, 'animal' and 'livestock' mean terrestrial animals, fish and shellfish bred for farm animal production.



AgriFood in the EU (2007)

Number of farms (EU 27)
7.3 million

Number of farm jobs
9 million fte

**Annual turnover
AgriFood industry**
€ 913 billion

Number of AgriFood jobs
over 4 million fte

Europe produces a wide range of traditional and very varied animal products such as cheeses and sausages that sell to premium and emerging markets and help to sustain its rural economy. In addition, animal farming is a component of multifunctional agriculture. Grazing animals maintain landscapes and help balance certain ecosystems, while helping to prevent wildfires in southern Europe. The animal production chain is complex. It supplies many sectors (food production; sport & leisure; human companionship; maintenance of the environment & landscape) and the competition for European markets is fierce. The newborn or newly hatched animal is the result of two major processes. First, a sophisticated genetic selection process seeks to balance production efficiency with robustness, enabling the animal to cope with the environment in which it will be raised. Secondly, the application of technologies for assisted reproduction aim to improve the efficiency of production of the young. Raising young animals for the market needs precision management, an appropriate environment, health care to prevent disease and to limit its propagation, and feed whose composition varies with crop availability, crop quality, by-product availability and market price. The end point may be the animal itself to

supply the human food sector or the growing leisure market, or the adult may be retained for the breeding system. In the 'farm to fork' production chain, the final products – meat, fish, milk, eggs, skin or hide – have their own specific distribution systems for use of the fresh product, or for the many and diverse processing industries.

Clearly, animal farming and its products are part of our cultural patchwork and for this reason alone need to be sustained and to expand to meet future demand. The challenge in Europe is complex for animal farmers, the upstream supply industries, the downstream distribution and processing industries and the research sector. Production must continue and increase its efficiency for the world market but in Europe, producers face additional demands and constraints: achieving a neutral or even positive environmental impact; improving animal robustness/health/welfare; adaption to requirements of the EU common agricultural and fisheries policy. In this difficult and complex situation, cooperation among actors within the various sectors is a necessary prerequisite because of the limited availability of specialised skills that need to be mobilized to get the new and innovative solutions off the ground. The environmental footprint of certain production systems is poor. Entrants are high, such as cereal-based diets from intensive fertilizer dependent crop systems, and waste contains many potentially recyclable elements (such as phosphorus) that additionally contribute to the eutrophication of fresh water ecosystems. Many housing systems are not energy efficient, and could be improved. Operating in a global, very competitive market, the future development of EU animal production systems needs to address the consequences of global warming with adaptation measures and, more importantly,

invent and implement measures to mitigate the impact of the animal production sector on global climate change and more generally on the environment (soil, water and air) . It is possible that the prevalence of animal diseases may increase with climate change accompanied by new, currently emerging, disorders that could spread among animals and even to humans. The scale of these challenges requires a concerted effort by all partners, both public and private, within the European Research Area.

² Demand estimates stem from the general agreement among the United Nations Department of Economic and Social Affairs, the Population Reference Bureau and the U.S. Census Bureau that the world's population will grow 50% by 2050 to at least 9.2 billion people. As economies emerge and develop, the average daily intake of calories will continue to rise as will meat consumption. These factors will increase the world demand for animal products (meat, fish, milk and eggs), for despite signs that demand is stabilising in Western Europe, it continues to rise in emerging countries. Farming livestock for human consumption has expanded over the past sixty years and undeniably contributes to improving human nutrition by providing necessary protein and needed income for rural populations, but more has to be done. We still have over 850 million people in the world threatened with starvation, an increase in obesity around the world, and food prices that have risen very sharply over the past two years. This movement is amplified by the current economic and financial crisis, but as competition for land use increases by all production sectors (including feed, food and biofuels), food could become scarcer and prices will then continue to rise. Reinvestment in agriculture aimed at high and sustainable production is high on the global agenda (World Bank, 2008) and translating this policy to concrete actions is a matter of some urgency.

³ These include breeding and reproduction, nutrition, management, health & welfare, veterinary science, economics, farming systems, rural development and integrative biology for the incorporation of state-of-the-art biological knowledge that is relevant to the sector.

European Technology Platforms - Industry, Research and Funding

The following Technology Platforms have united in a cooperative initiative to identify common opportunities and challenges and define the way forward to achieve goals defined in a joint mission statement:

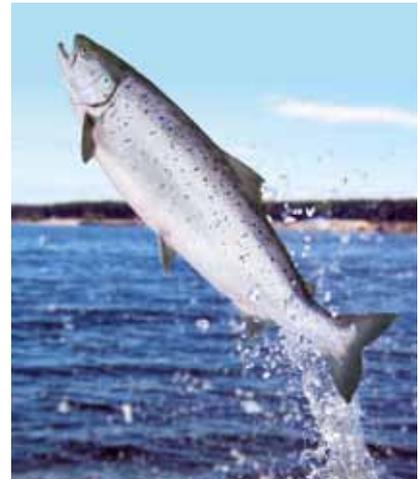
- FABRE (Sustainable Farm Animal Breeding and Reproduction ETP)
- GAH (Global Animal Health ETP);
- EATiP (European Aquaculture Technology Platform);
- EUFETEC (Feed and Feed Additives Technology Platform)

This is an open initiative that all interested parties may join. For example, the knowledge production sector is represented (8 countries; research and educational sectors) as is the

knowledge dissemination sector (2 European organisations) and other professional organisations have expressed interest and are expected to join soon.

With a basis for public/private partnerships in place, ATF has a strong position from which it can seek funds for cooperative and translational research for the animal production sector. This includes the Framework Programme, but the intention is to go beyond and identify which of the newer tools (e.g. Knowledge and Innovation Communities, or KICs) might be appropriate to establish the medium and long term research necessary to underpin the activity of this sector.

⁴ FAO report 'Livestock's Long Shadow'





Vision - Mission - Strategy

Vision

The Animal Task Force partners share a commitment to developing the European Research Area by all means available, the EC Framework Programmes, trans-national and trans-regional funding and direct funding by industry on prioritised topics.

Europe is committed to building a European Knowledge Based Bio-Economy (KBBE), to develop the knowledge needed for tomorrow's technologies. In our sectors, this includes the knowledge that will be used to select productive and robust animals, create more sustainable and better optimised animal production systems and ensure a steady supply of good quality food and other 'agri-products' for all. To exploit this opportunity optimally, there is a clear need to develop a vision of 'Animal Farming for Tomorrow' through an appropriate forum, and to establish priorities, and strengthen synergies between sectors, for example aqua and agri, feed and breeding. The commitment of all the stakeholders to this shared vision is an absolute prerequisite for success in the implementation of a joint European research strategic agenda.



Mission

ATF is a group of stakeholders that works for a sustainable and competitive livestock and companion animal sectors at the forefront of technological development and other innovations through the creation of an enabling environment and adoption of an integrated approach across the value chain.

ATF integrates the major components of European livestock production. It aims to promote a positive image of the entire sector, and will facilitate discussions on matters relating to future EU regulations that affect the sustainability and competitiveness of the sector.

The Animal Task Force aims

- To be the European knowledge-related forum for sustainable and competitive animal production
- To act as a source of expertise for industry, policy makers and European institutions
- To initiate efforts and activities enhancing European and interstate research and innovation
- To help European based Technology Platforms to achieve their objectives
- To enhance global competitiveness in the European livestock sector.

It has a wide scope, reflecting the interests of the founder technology platforms. First, it deals with animal production systems and aims to make them more efficient and environmentally friendly, producing high quality and safe food. A central component of these systems is the animal. On tomorrow's farm, animals must be healthy, balanced and robust.

A balance has to be found that matches production demands with ethical farming procedures, and the robust animal will cope with all challenges posed by the farming environment. Setting the correct selection goals and providing an adequate rearing system with access to a balanced diet can achieve this. Careful attention to prophylactic measures will optimize health and limit recourse to pharmacological or veterinary interventions. The deployment of new, non-invasive tools and surveillance methods will relieve pressure on the farmer and provide aids for decision-making. This will improve the working environment and optimize the performance of the farming system.

ATF will develop a dialogue with its target communities. Within the EC, it will communicate with the directorates that together cover the operational areas of the founder technology platforms (DG RTD, DG SANCO, DG AGRI, DG ENV, DG MARE). When appropriate, ATF will address the member states of the EU through key institutions, such as the Committee of the Regions, standing committees (SCAR, SCOFCAH) and EU agencies (EFSA, EVA). On keynote and new issues, ATF expects to develop relationships with the EP and notably with committees such as ITRE and the fisheries committee. Finally, to fully develop the 'food chain' approach, ATF will provide an interface with other TPs such as Plants for the Future, Food for Life and Manufuture.



Strategy: Animal Knowledge Base

Major goal for the next twenty years: 'New Animals for New Systems'.

Balanced robust healthy animals –

The possibilities offered by genomic selection open the way for the generalized breeding of robust, balanced animals in balanced breeding programmes that are able to create tradeoffs between potentially antagonistic traits such as fertility, health, and production performances. This has already been successfully applied in the major poultry breeding programmes and is being applied too in the major livestock species. The importance of the **system element** has frequently been underestimated, but provides further opportunities. This approach can, for example, permit a 'nutritional profile agenda' to be incorporated, increasing the concentrations of beneficial compounds in the final product for **better human health**. Furthermore, the major components of any new system need to be conceived in relation to each other. The buildings must provide an adequate environment for the animal while new feeds can be exploited within the confines of maintaining nutritional balance and product quality



Systems that are efficient, better for the environment, and adaptable to climate change -

European farm industries are global players and supply competitive markets, both European and worldwide. Thus, the viability of both the conventional and the alternative sectors need to be considered and priorities set accordingly. New, sustainable production systems have to **minimize their environmental footprint**, and this demands a holistic approach incorporating crop or pasture production, or compound feed at one end of the supply chain via improved digestive efficiency and well-adapted animals in efficient and alternative production systems, to the optimization of the food distribution circuit at the other. Many other factors will change over the coming two decades, and adapting to **global climate change** will undoubtedly focus our attention more and more. Animal diseases know no frontiers and more opportunistic pathogens will spread northwards and westwards, calling for a wider adoption of the **epidemiological approach to disease control and management**. Finding ways of mitigating the effects of animal production on climate change is important, and research to minimize the environmental footprint should embrace this aspect. Adapting animal production to often harsher conditions is an urgent task, and one that must be pursued on a **global and a North/South collaborative basis**. It will not be too difficult to establish priorities and consensus on these issues, but we also have to tackle controversial issues. These include **animal welfare, the ethics of using animals and new technologies that give rise to ethical considerations** such as cloning and other new



biotechnologies. It is essential that new technologies that produce new knowledge are studied experimentally and independently, since the primary intention is to stock the knowledge base.

Implementing new systems will require new skills. Typically, maintaining water supplies, drainage, ventilation, and surveillance systems call for **changes in the way we teach animal farming**. Since we will need new farmers for these new systems, the new teaching must be available in initial training, but also in the **life-long learning** systems that target adult education. To get maximum impact from our education in this sector, we need to make the case for **European certification for the entire range of skills** needed to conduct either extensive farming or groundless systems. This will allow greater mobility across EU member states, and will also encourage a more uniform and higher level of skills that will feed through to better and more uniform product quality.

atf

animal task force

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