

ideko



annual report 06

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investigate to innovate

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ideko

page contents

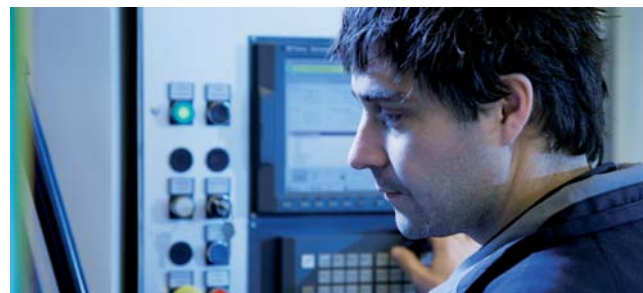
- .04 message of the president
- .06 year review
- .08 mechanical engineering
- .12 control engineering
- .16 product engineering
- .20 organisation and quality
- .24 publications and patents
- .26 our projects
- .30 executive organs





or. **aurkibidea**

- .05 **lehendakariaren mezua**
- .07 **urteko errepasua**
- .09 **ingeniaritza mekanikoa**
- .13 **kontrol ingeniariatza**
- .17 **produktu ingeniariatza**
- .22 **antolaketa eta kalitatea**
- .24 **argitalpenak eta patenteak**
- .27 **gure proiektuak**
- .30 **gobernu organoak**





.01 message from the president

In my capacity as president of **IDEKO**, I would like to express my gratitude for your interest in this review of the year 2006, which coincidentally is also Ideko's 20th anniversary!

Some of us in **IDEKO** saw the beginning of a daring project of a few of the most important local companies of the machine tool sector who wished to differentiate themselves and who were in pursue of an answer to certain technological demands which they could not handle on their own. Thus, twenty years ago, a team made up of staff "on loan" from these companies (Antxón López Usoz, Jose Angel Marañón and Juantxu Martín together with Arantzazu Amasorrain and Patxi Albaldetrek) embarked on a new adventure, the end of which we all know.

IDEKO has seen many changes since that moment. It has become a consolidated reference in the field of manufacturing on the domestic market, and in some other specific fields internationally. This growth has gone hand in hand with a modern management system, always opting for the latest trends. Proof of this is the fact that **IDEKO** was the first technology centre in Spain to be awarded the ISO 9000 certificate for all its activities, or the integration of process management which scored over 400 points in the external

evaluation following the EFQM model.

In all this time, **IDEKO** changed from doing projects tackled by a single department for one particular customer to taking on multidisciplinary projects in partnership with other companies and centres, often times in an international framework. **IDEKO's** first participation in a European project dates back to 1992: SINTOMA. Currently, by contrast, Ideko is involved in eight European projects, of which Ideko is technological leader in two of them (over 30 projects together with more than 200 companies, centres and Universities throughout its existence) Ideko's research, patents, a specifically significant activity over the last few years, qualification, proximity to industry (IDEKO has 12 business partners and 2 collaborating members), and technology transfer (2 NEBT's in 2005, involvement in over 15 new product developments per year over the last five years, training and transfer of professionals), were recently recognised by the Basque Government by conferring the right to **IDEKO** to carry the title Technology Centre.

.01 lehendakariaren mezua

IDEKOko lehendakaria naizen aldetik, eskerrak eman nahi dizkizuet **IDEKO**ren 20. urteurrena ospatu dugun 2006ko ekitaldiaren azterketan gurekin izateagatik.

Twenty years have gone by, and 5 staff have become 88 professionals involved in R&D in manufacturing technology from a small rented premises to a 3000 m² building with a 800 m² prototype workshop equipped with cutting edge technological means; from staff on loan from the founding companies to a co-operative source of professionals for our customers (35 people from **IDEKO** have been transferred to a variety of vacancies in the customer companies over the last 5 years) and for the Basque business fabric (close to 20 professionals a year are released to the industrial fabric).

And that's not all! As our General Manager will explain elsewhere in this report, our project portfolio is well stocked at the moment. This fact, together with the imminent commissioning of the new building (**IDEKO** will double its premises and considerably improve its facilities and infrastructure for the development of both strategic activity and launching of multidisciplinary mixed **IDEKO-CUSTOMER** units, as well as complementary activity such as training and dissemination) make **IDEKO** a settled project, yet alive and with a very promising future.

Rafael Barrenechea
Presidente

Gaur egun **IDEKO**n partaide garenetako zenbaitek proiektu ausart baten hasiera ikusi genuen: gure ingurune geografikoko makina-erremintako enpresa batzuek berezitu nahi izan zuten, beren betiko organizazioetan ezin eta, zeuden eskakizun teknologikoei erantzuteko xedearekin. Arrazoi hori tarteko, jada orain dela 20 urte, enpresa horiek lagatuko langilez osatutako talde batek (Antxon Lopez Usoz, Jose Angel Marañon eta Juantxu Martin, Arantzazu Amasorrain eta Patxi Albaldetrekurekin batera) abentura bati ekin zioten, eta guztiok ezagutzen dugu emaitza.

Harrezkero **IDEKO** asko aldatu da, gauza askotan. Estatu mailan Fabrikazioaren arloan erreferentzia gisa finkatu da, baita nazioartean ere zenbait eremu jakinetan. Eta betidanik kudeaketa sistema moderno batean oinarrituta osatu du bidea, organizazioarekin batera hazi den sistema batekin, uneoro Management-aren azken joeren aldeko apustua eginez. Horren erakuslea da Estatu mailako lehenengo zentro teknologikoa izatea ISO 9000 ziurtagiria lortzen bere jardura guztietarako, edota EFQM ereduaren arabera egindako kanpo ebaluazioan prozesuen bidezko kudeaketaren integrazioa 400 punturekin baino gehiagorekin errekonozitzea.

Denbora horretan guztian, **IDEKO** departamentu eta bezero bakarreko proiektuak egitetik diziplina askoko proiektuak egitera igaro da, bertako zein nazioarteko enpresekin eta beste zentro batzuekin lankidetzan. Hain zuzen ere, 1992an **IDEKO**k Europako SINTOMA proiektuan parte hartu zuenetik, Zentroa garatu egin da, eta gaur egun 8 proiektu europar ditu aktibo, horietako bitan lider teknologiko gisa parte hartzen duenak (bere historian 30 proiektutik gora dira 200 enpresa, zentro eta unibertsitatekin baino gehiagorekin). Bere ikerketa lanak, bere

patenteak, jardura aipagarria ekarri dutenak azken urteetan, bere kualifikazioak, enpresatik hurbil egoteak (**IDEKO**k 12 enpresa bazkide eta 2 bazkide laguntzaile ditu) eta teknologia transferitzeko lanak (2 NEBT 2005ean, azken bost ekitaldietan urtero produktu berrien 15 garapen baino gehiago, profesionalen prestakuntza eta transferentzia) errekonozimenduaren saria jaso dute, Eusko Jaurilaritzak Zentro Teknologikoaren kategoria aitortu baitio orain dela gutxi.

Dagoeneko 20 urte igaro dira eta 5 lagun izatetik 88 profesional izatera iritsi gara fabrikazio teknologietan I+Gko lanetan, errentan hartutako lokal txiki batetik 3000 m²-ko eraikin batera aldatu gara, prototipoetarako 800 m²-ko tailer batekin eta azken belaunaldiko bitarteko teknologikoekin, enpresa fundatzaileek lagatuko langileak izatetik profesional iturri bihurtu gara gure bezeroentzat (azken 5 urteetan **IDEKO**ko 35 pertsona transferitu dira enpresa bezeroetako postu desberdinetara) eta euskal industri sarearentzat oro har (urtero 20 profesional inguru ipini ditugu merkatuan).

Hori ez da dena, ordea. Aurrerago gure zuzendariak adieraziko duen bezala, egoera bikainean gaude gure proiektu zorroari dagokionez. Errealitate horri gehitzen badiogu eraikin berria berehala operatibo izango dela, (**IDEKO**k instalazioak bikoiztu eta nabarmen hobetuko ditu bere ekipamendua eta azpiegiturak, bere jardura estrategikoak garatzeko zein diziplina askoko **IDEKO-BEZERO** talde mistoak eratzeko, baita prestakuntza eta hedapen jardura osagarriak egiteko ere), argi esan dezakegu **IDEKO** proiektu finkatua dela, bizia eta oso etorkizun handikoa.

Rafael Barrenechea
Lehendakari



.02 yearso review

The moment has come to take stock again of the results for 2006. I would like to start this assessment by mentioning a milestone in Ideko's history, namely its 20th anniversary.

This anniversary, as we shall see later, has come at an excellent time for **IDEKO**, with a sound economic-financial situation and with a solid base to face the future.

The activity of the centre, continued from previous years, has seen an upward trend and stood at a total income slightly higher than 5 M?, a growth of 7% with respect to the previous year. Furthermore, we won more projects than ever and reached an order portfolio of over 8.5 M?. The CENIT project ,“ eEe- Advanced Technology for manufacturing equipment and facilities of 2015” is one of the most unique processes we have won. This great initiative is a challenge taken on by many machine tool manufacturers who have placed their trust in **IDEKO** as their partner in technological development.

The year 2006 was a year marked by a large number of research projects which have allowed Ideko to make significant headway in the realm of machine tools and manufacturing technology. This arduous labour involved in above projects lead to a great many publications, with a total of 16 appearances in congresses and international magazines, as well as 17 papers presented on the 7th National Congress of Machine Tools and Manufacturing Technology. The research was backed by several institutions that acted as true support during research and developments in the specialisation fields of the

IDEKO. The support of Ideko projects by public administration was fortified even further in 2006 when the Basque Government awarded Ideko with the title of Technological Centre. This milestone is a true recognition of the direction taken by the research centre.

In **IDEKO**, we understand that research and development are much more efficient if they are done in partnership adopting an open innovation model in which we seek collaboration with other stakeholders, companies and entities to bring a project to a successful end. Hence, we remained actively involved in CIC marGUNE (CIC marGUNE Co-operative Research Centre in the field of Manufacturing) and we signed the entry protocol into Alianza IK4, an alliance of Technology Centres. This protocol initiates a gradual entry in the alliance which should be completed in 2007.

Our research and development is a continuous flow with technology transfer and creation of value on the market, which is the ultimate end of all our company dealings. The established commitment of Ideko to work in close collaboration with companies in the vicinity has given us continuous involvement in a variety of fields: some more related to business strategy from the point of view of technology monitoring and competitive intelligence, and others more related to development and application of new technology seeking to develop innovative products and production processes. Our working together with other companies in this line has resulted in 2 new patents, and both of them have been transferred to industry. Finally, insofar as partnerships are concerned, outstanding news is that Kondia became a member of Ideko, thus committing itself even stronger to research and technological development.

Alongside with the research, great progress was made in 2006 in the new **IDEKO** building. In the new building there will be some specialised facilities to develop high-output production processes such as ultra-precision manufacturing processes. These new facilities should be ready in the first half of 2007, and together with the already existing infrastructure they will enable to become an absolute reference in the scope of machine tools and manufacturing technology.

The last thing I want to do is leave our customers, axis and purpose of our existence, unmentioned. But this time I will go about it differently, and instead of us assessing our work in technological innovation of the business fabric, we have considered it a better idea to ask those who are directly involved. That is why I would like to ask you to read the following pages, where together with the trading results of the centre in 2006, you will be able to find the opinion of some people who one way or another have been involved with **IDEKO**.

Ramón Uribe-Echeberria
Managing Director

.02 urteko errepasua

Beste behin ere, 2006 urtean egindako jardueraren balantzea egiteko ordua iritsi da. Balantze hau hasteko guretzat bereziki garrantzitsua izan den mugarri bat aipatu nahi nuke, eta hori IDEKoren 20. urteurrenaren ospakizuna da

Urteurren hori, ondoren ikusiko dugunez, **IDEKO**rentzako oso momentu onean iritsi da, egoera ekonomiko-finantzarioa oso ona delako, eta etorkizunari aurre egiteko oinarri sendoak ditugulako.

Zentroaren jarduerak, azken urteetan egindako bideari jarraituz, hazkunderaren ildotik jarraitu du, eta guztira lortutako sarreraren zifra 5 M€-tik gora kokatu da, hau da, %7ko hazkundera izan du aurreko urtearekiko. Horrez gain, atzemandako proiektuen maila bikaina izan da, 8,5 M€-ko baino gehiagoko eskaera zifrarekin maximo historikoa lortu baita. Lortu diren proiektuen artean nabarmen daiteke, daukan berezitasunagatik, CENIT proiektua, "eEe - 2015eko Fabrikazio Ekipamendu eta Sistemetarako Teknologia Aurreratuak" izenekoa; lankidetzan gauzatzeko ekimena da, eta makina-erremintaren sektoreko enpresa askok konfiantza erakutsi dute **IDEKO**rengan, garapen teknologikoan kide izateko.

Bestela ezin izan eta, 2006 urtearen ezaugarrietako bat ikerketa proiektuen kopuru handia izan da, izan ere, horiei esker **IDEKO**k aurrera egin ahal izan du makina-erremintaren eta fabrikazio teknologien espezializazioan. Egindako lanaren fruitu gisa argitalpen ugari egin da eta, guztira, 16 agerraldi egin dira nazioarteko biltzar eta aldizkarietan, eta horiei gehitu behar zaizkie Espainiako Makina-Erremintaren eta Fabrikazio Teknologien VII. Biltzarrean aurkeztutako 17 ponentziak. Ikerketa lanak hainbat erakunderen laguntza izan du, eta laguntza horrek euskarri garrantzitsua eman dio zentroaren espezializazio eremuetan ikerketan eta garapenean egindako lanari. Administrazio publikoek **IDEKO** proiektuari emandako babes hori Eusko Jaurlaritzaren errekonozimendurekin indartu da, izan ere Zentro Teknologiko gisa errekonozitu du, eta horrek zentroak osatutako ibilbidea aintzat hartzen duela adierazten du.

IDEKOn ulertzen dugu ikerketa eta garapen lanak askoz eraginkorragoak direla lankidetzan egiten badira, eta berrikuntza eredu ireki baten aldeko apustua egiten dugu, zeinean proiektuak aurrera eramateko beste eragile, enpresa eta erakunderekin elkarlanean jarduten dugun. Horrela, CIC marGUNE zentroan aktiboki parte hartzen jarraitu dugu (Manufacturingaren eremuko Ikerketa Kooperatiboko Zentroa), eta Zentro Teknologikoen aliantza den IK4 Aliantzan sartzeko protokoloa izenpetu dugu. Protokolo horrek aliantzan pixkana sartzeko prozesu bat hasten du, 2007an amaitzen dena.

Gure ikerketa eta garapen lanaren hurrengo pausoa teknologia transferitzea eta merkatuan balioa sortzea da, horixe baita gure jardueraren guztien jomuga. **IDEKO**k enpresekin elkarlan estuan aritzeko historikoki egin duen apustua eta enpresa horiengandik hain gertu egoteak aukera eman digu hainbat alorretan lankidetzan aritzeko: alor batzuek lotura estuagoa dute enpresa estrategiarekin, esaterako, zaintza teknologikoaren edota adimen lehiakorraren ikuspegitik, eta beste batzuek harreman gehiago dute teknologia berrien garapen eta aplikazioarekin, produktu eta fabrikazio prozesu berritzaileak garatzeko bidean. Ildo horretan, enpresekin izan dugun elkarlanaren emaitza 2 patente berri izan dira, guztiak ala guztiak industriara transferitu direnak. Azkenik, enpresekiko lankidetzaren atal honetan nabarmendu behar dugu Kondia **IDEKO**ko bazkide bilakatu dela eta, horrenbestez, ikerketa eta garapen teknologikoaren aldeko apustua indartu duela.

Jarduera ikertzailearekin batera, 2006an zehar **IDEKO**ren eraikin berriaren eraikuntzan ere aurreratu da. Eraikin horrek instalazio espezializatuak eskainiko ditu errendimendu handiko zein ultradoitasunezko fabrikazio prozesuak garatzeko. Instalazio berriak 2007aren lehenengo sei hilabetean hasiko dira lanean eta, gaur egun daudenekin batera, aukera emango diote **IDEKO**ri makina-erremintaren eta fabrikazio teknologien eremuan erreferente gisa finkatzeko.

Ez nuke nahi aurkezpen hau gure bezeroak aipatu gabe amaitzea, horiek baitira gure jardueraren ardatza eta xedea. Baina oraingo honetan beste modu batez aipatuko ditut, izan ere, hitza eman diegu, eta, enpresa sarearen berrikuntza teknologikotik hurbilen dagoen gure jardueraren balorazioa guk egin beharrean, nahiago izan dugu inplikatuari zuzenean galdetu. Hori dela eta, hurrengo orrialdeak gurekin konpartitzera gonbidatzen zaituztet, bertan, 2006ko ekitaldian zentroan gauzatuak jardueraren balantzearekin batera, alde edo moldez **IDEKO** proiektua konpartitzen duten hainbat pertsonaren iritzia ere aurkituko baitituzue.

Ramón Uribe-Echeberria
Kudeatzailea



.03 mechanical engineering

Opening up to new manufacturing technology

The work of the Department is structured around three research and development lines with the objective of developing the technology in the scope of machines and processes that can be applied by our members and clients in pursue of enhanced competitiveness. The three lines mentioned below have been the focal point of our activity in 2006:

In the line of machines and machine parts the work performed to improve the behaviour of machines in several priority lines stood out. The differentiating and essential factor to obtain precision and quality in movement of head and axes was the work performed on active hydrostatic bearings pursuing greater reliability and a broader work range of certain parts. In this context, we provided solutions applied industrially to machines of our customers as well as medium-term developments in which bearings are provided with intelligence using magnetorheological fluids.

Also noteworthy is the progress made in the micro-manufacturing line is after completion in 2006 of the first prototype of a micro-manufacturing machine. Actual production of this machine will start in 2007.

Another highlight was the launching of the composite part manufacturing technology line on which the department worked hard last year, and which resulted in two major achievements: the materialising in one of our priority industrial members Danobat of a new business line in this field, and on the other hand the submission of a project to a CENIT call, which was led by Danobat with the support of **IDEKO**.

Finally, the partnering with our main customers in designing new products is worth mentioning; examples of this are the LG grinding machine, the head on the lathe for machining of large pipes or the range of the customised machine and measuring means range of the new business activity Dano Rail for railway wheel maintenance.

.03 ingeniari-tza mekanikoa

fabrikazio teknologia berrietara irekitzea

Departamentuaren jardura hiru ikerketa eta garapen ardatzen inguruan egituratuta dago, eta helburua da makinaren eta prozesuen eremuan gure kide eta bezeroek erabil ahal izango dituzten teknologiak garatzea, lehiakortasunean abantaila lortzeko. Hiru ildo horietan, 2006an garatutako jardura honela laburbiltzen da.

In the line of modelling and simulation, apart from the everyday support to design and product improvement through FEM analysis of structures and components, our research effort lay heavily upon developing simulation models of the binomial machine-machining process, both for stock removal, in particular milling, and abrasion. The main result of these models lies in the process setting device, which has already been launched on the market, as well as the use of these models in tool selection and work conditions during the quotation and setting stage by several of our clients.

In the line of transformation processes, we must point out the firm commitment to developing eco-efficient processes aimed at a significant reduction of residual waste material and optimisation of energy use. In this field, based on the excellent results obtained for years in the cutting processes, and already applied in industry, we have started this for the grinding process adopting the same ambitious objective and applying technology such as cryogenic gas in an air-oil mixture system.

In addition, remarkable are also the alternative machining processes such as diamond dressing of grinding wheels by means of EDM or ultrasonic-aided dressing, in both cases with the ultimate aim to increase productivity of the global grinding process.

Of course, the materialisation in an industrial project of our commitment to mixed manufacturing technology based on combined filler material and machining techniques cannot remain unmentioned. In fact, this commitment, started some 3 years ago in the department has become a collaboration agreement between Ideko, Danobat and Iberia for the joint development of this technology into a new parts repair line which Iberia will install in its maintenance unit of motors.

Makinaren eta osagaien ildoen, hainbat lehentasunezko lerrotan makinaren portaera hobetzeko egindako lana nabarmentzen da. Buruen eta ardatzen mugimenduan doitasuna eta kalitatea sortzeko elementu bereizle eta funtsezkoa lortzeko, kojineten hidrostatikoen aktiboen arloan egin da lan, fidagarritasun eta lan tarte handiagoa izango duten elementuak lortzeko xedearekin. Eremu horretan, gure bezeroen makinatan industrialki aplikatutako soluzioetan oinarrituta egin da lan, eta epe ertainerako garapenak ere landu dira, jariatzen magnetoreologikoetatik abiatuta kojineteei adimena sartzeko.

Halaber, ildo honetan bertan mikrofabrikazioaren lerroan egindako aurrerapena ere aipagarria da, 2006an zehar mikromekanizazioarako makinaren lehenengo prototipoa osatu baita; horren fabrikazioa 2007an hasiko da.

Ildo honetan azpimarratu beharreko beste eremu bat konpositezko pieza fabrikatzeko teknologien lerroa ateratzea izan da, zeinean Departamentuak aktiboki jardun duen urtean zehar. Lan horrek bi mugarri garrantzitsu ezarri ditu: gure lehentasunezko bazkide industrialetakoa den Danobatek arlo horretan negozio ildo berri bat sortzea, eta, horrez gain, CENIT deialdira Danobatek proiektu bat aurkeztea, **IDEKO**ren laguntza nagusiarekin.

Azkenik, gure bezero nagusiekin beren produktu berriak diseinatzeko izan ditugun lankidetzak nabarmendu behar dira, esaterako, LG artezteko makina, tutu handiak mekanizatzeko tornuaren burua, edo Dano-Rail negozio berriaren neurketa makina eta ekipamenduen gama, trenbideko errodadurak mantentzeko.

Modelizazioaren eta simulazioaren ildoen, egituren eta osagaien MEF analisia eginez produktuaren diseinuan laguntzeko eta hobetzeko eguneroko lanaz gainera, ikerketaren arloan gure ahaleginak

mekanizazioaren makina-prozesu binomioaren simulazio bateratua egiteko modeloak sortzera zuzendu dira, bai harroketaren prozesuei dagokienez, bereziki fresaketan, bai urradura prozesuei dagokienez. Modelo horien emaitza nagusi gisa aipa daiteke iadanik komertzializatua dagoen prozesuak prest jartzeko daukan erreminta, eta baita modelu hauen erabilera erramintak eta lan baldintzat aukeratzeko, eskaintza eta makina prest jartzeko faseetan.

Transformazio prozesuen ildoen prozesu eko-efizienteen aldeko etengabeko apustua nabarmendu beharra dago, hondakin gutxiago sortzera eta energiaren kontsumoa optimizatzera zuzenduta. Esparru honetan, orain dela hainbat urtetik hona ebaketa prozesuetan lortzen ari garen emaitza bikainetan oinarrituta, zeinak dagoeneko industrialki aplikatzen diren, 2006an artezteko prozesuan hasi gara bida egiten, betiere helburu handinahi berari jarraituz, eta hainbat teknologia berezi aplikatuz, horien artean gas kriogenikoaren erabilera airea-olioa nahasteko sistemetan.

Mekanizazio prozesu alternatiboen garapena ere azpimarratu behar da, esaterako artezteko hariak elektroerosioz diamantatzea edo ultrasoinuz lagundutako diamantaketa, bi kasuetan artezteko prozesu globalaren produktibitatea handitzeko helburuarekin.

Ezin dugu ahaztu garapen industrialeko proiektu bat gauzatu dugula fabrikazio teknologia mistoen aldeko gure apustuaren barruan, material ekarpenak eta mekanizazioa konbinatzen dituzten teknikan oinarrituta. Hain zuzen ere, orain dela hiru urte Departamentuan hasi zen apustu hura, 2006an, **IDEKO**ren, Danobaten eta Iberiaren arteko lankidetzaren hitzarmen bihurtu da, teknologia hori elkarrekin garatzeko. Garapen hori piezak konpontzeko lerro batean gauzatuko da, eta Iberiak motorrak mantentzeko bere negozioan instalatuko du.



MARIANO SASTRE, Managing Director Eurofiber



“Our relationship with Ideko is based on synergy and complementary support”

How did the Eurofiber and IDEKO relationship come into being?

We got in touch with **IDEKO** because of a change in outlook on future work. Basically, the underlying idea is that the machine tool market, which has always been the main axis of industry in the Basque Country, is essentially focussed on metal work.

Metal has undergone a rational evolution in the last 150 years, but nowadays it has reached a limit insofar as its use, and the ratio quality-price-resistance. Therefore, if we wish to remain competitive on an international market, logically you have to change your philosophy. In a few years, most metal material used today will be replaced by new composites; these materials based on the bond between a fibre and a resin will make a large quantity of metals obsolete, and in fact, they are already on their way to doing so. An example of this is the 7E7, the plane being built by Boeing. The amount of metal being replaced by carbon fibre composites amounts up to some 75-80%.

Both Danobat and **IDEKO** were convinced that they had in fact had to face a major turnaround in the general policy of the companies; after all, the market of composite material had to be tackled. Several possibilities existed: one of them was to contact Eurofiber, a relatively young company with only seven years operating on the market, but which in reality had some 30 years experience in working with composites. The potential to exploit this longstanding experience of an already perfectly established and sizeable company within the machine tool field was considered very important.

What are the advantages of working with IDEKO?

We started working with **IDEKO** and from the start we created a direct synergy with them, because **IDEKO** has a special structure dedicated to research, development and performance of new projects.

Currently, we are working on several projects with **IDEKO**; projects with a lot of research from an industrial point of view, even though there are also projects that are not exclusively industrial. These projects have a sound theoretical basis, sufficiently important so that in a near future new technology can be installed that is entirely developed in Spain, capable of already solving existing problems. This is in essence the general idea on which we are working.

How would you define the relationship between IDEKO and Eurofiber?

We can say that the relationship between **IDEKO** and us is a relationship between two companies or two work teams in which an enormous amount of technology is vested. Our advantage is that we are completely complementary to **IDEKO**.

Our relationship is based on synergy and complementary support. The importance of **IDEKO** for us is that they are a well-staffed work team who can practically tackle any field in mechanical engineering, processes, automation, software, etc. In other words,

IDEKO holds practically all knowledge for the development of mechatronic parts of a machine. And on the other hand, we bring in the knowledge of all processing and design technology of parts manufactured of composite material. This is in essence the balance that serves as the foundation for continued complementary support.

We are interested in working with **IDEKO**, and for two reasons: First of all, working with **IDEKO** provides us with advantages with regards to machine development, machine design, structural design, design of calculations, ... **IDEKO** works with professional specialists in manufacturing technology with many years of experience which fits in perfectly with the know-how of our team. Secondly, it being a company pertaining to the MCC group, there are some important personal connections and its policy of technology transfer provides key opportunities for product development. In this respect, property is absolutely clear, and transfers run smoothly without any type of problem.

The team of **IDEKO** is built around a great many specialities which are all linked with each other. If between **IDEKO** staff and Eurofiber staff we wished to build the most complex machine in the world, we would be perfectly able to. The reason is obvious: we combine a wide and long experience in the field of machine tools with specific knowledge in the field of processes and machinery for manufacturing composites.



IÑAKI DORRONSORO

MCCn I+G zentroen koordinatzailea eta MIKeko lehendakaria

MCC eta berrikuntza oso loturik egon dira beti, ezta?

Halaxe da. Esan daiteke beti izan dela MCCn ikerketa teknologikoaren ardura handia: 90eko hamarkada horretan, berrikuntza-antolakuntza eta kudeaketa munduan lan handia egin dugu, eta berriz ere indar handiarekin hartu dugu 90eko hamarkadaren bukaera aldera teknologia-berrikuntza eta ikerketa, zientzia eta teknologia planak bultzatuz, ikerketa zentro berriak sustatuz, berrikuntza kontzeptua bultzatuz geroxeago eta, azkenik, negozio berriak sortzeko 'Sustapen Zentro' berria sortuz.

Gaur egun, globalizazioaren eszenatoki honetan, berrikuntzaren beharra oso argi ikusten dugu, eta gainera estutu egin da behar hori. Baina MCCko historian begiratzen badugu, ikusiko dugu gaur egun egoera onean dauden kooperatiba guztiek betidanik eman diotela garrantzia alderdi horri.

Nola definituko zenuke IDEKO?

IDEKO historiko bat da jadanik. Bere momentuan, makina-erremintako gure talde kooperatiboak egindako oso apustu aurrerakoia izan zen; orain badirudi denok hori onartuta daukagula, horrela izan behar dela, baina **IDEKO** sortu zenean denok ez genuen hori horrela ikusten.

Zergatik genuen hori hain argi? Nik bi arrazoi aipatuko nituzke: gure makina-erremintako kooperatibek, beren negozioen estrukturagatik, orain dela urte asko kanpora atera behar izan zuten, eta munduan lehiatu; horrek ikerketaren eta produktuaren garapenaren beharra sortzen du nahitaez. Bigarrena, beraien produktuak garatu ahal izateko ekarpen eta aldaketa teknologikoak oso beharrezkoak izan direla da. Azken 40 urteetan, makina-erremintaren munduan, iraultza teknologikoak garrantzitsuak izan dira oso, nonbait izan badira, eta eragin izugarria izan dute. Iraultza horietan bidea ez galtzeko sendo heldu behar zaio ikerketari, eta **IDEKO** sustatzen duten kooperatibek ongi egin dute hori. Gaur egun fabrikazio teknologietan liderra den zentro teknologikoa daukagu, eta hori MCCk berrikuntza teknologikoaren alde egiten duen apustuaren erakusle garbia da.

Berritzaile izateari eustea zaila da, ezta?

Berrikuntza merkatuan ongien eraldatzen diren ideia, inizatiba eta planteamenduak dira guretzat; izan daiteke **produktu** mailan, produktu berri batzuetan transformatzen denean eta merkatuan arrakasta izaten duenean, edota **produktio edo antolakuntza sisteman**, gure kooperatibak lehiakorrakoak bihurtuz.

Berrikuntza lau mailatan ikusten dugu guk: maila **estrategikoan**, hau da, negozio berri batean sartzean, produktu berri bat merkatu berri batean eta teknologia berri batekin martxan jartzean; **produktu mailako berrikuntza; teknologikoa**, askotan produktu eta negozio berriak sortzearen atzean egoten dena, eta **antolamenduari buruzkoa**, gauzak beste modu batzuetara antolatu, kudeatzeko eredu berriak sortuz eta aplikatuz. Lau maila horiek bata besteari lotuta daude, eta euren artean ez dago hierarkizaziorik.

IDEKO, hasiera-hasieratik, bere bezeroen produktu eta teknologiaren berrikuntzarekin identifikatu da. Hain zuzen ere, bere izateko arrazoi nagusia berrikuntzatik abiatuta enpresen lehiakortasuna hobetzea izan da, produktuaren garapenari euskarri teknologikoa emanez. Jarduera hori bigarren etapa batean osatu du **IDEKO**k, berrikuntzaren maila estrategikoen eta antolamenduzkoen inguruko alderdiak landuz, adimen lehiakorraren eta merkatu eta planen kudeaketaren bidez.

Berrikuntza nola egiten den? Nire teoria da berrikuntza ez dela egiten enpresan itxi eta buruari bueltak ematen; berrikuntzak munduan begi-belarri murgilduta hasi behar du, ez bakarrik gure lehiakideei edo bezeroei begiratuz, munduan dauden agente edo eragile guztiei begiratuz baizik. Etxe barruan oso zaila da berrikuntza gauzatzea.

Ze baldintza bete behar ditu berrikuntzak zuen taldean?

Gurea bezalako talde kooperatibo batean berrikuntzak bete beharreko funtzioak bi dira: bide horretan estrategia garbi eta indartsua egotea, batetik, eta bestetik, kooperatibaren zuzendaritza duen pertsona edo taldea erabat murgilduta egotea, berrikuntza ezin baita delegatu.

Zein da zuen helburua?

Zentro korporatiboan gauden pertsonen helburua kooperatibei ideiak, irizpideak, politikak, errekursoak eta abar eskaintzea da, ondoren, horiek euren lana ahalik eta ongien egin dezaten. Kooperatibetan berrikuntza eta ikerketa teknologikoa ahalik eta ongien eta indartsuen egitea da gure xedea. Hori guztia **IDEKO** bezalako zentro teknologikoen laguntza baliotsuarekin.



.04 control engineering

Technology in the hand of the user

In the department of Control Engineering we endeavour to channel all research and development in automation and control technology, in information technology and metrology towards industrial applications.

Likewise, often we make it possible to make the industrialisation of developments from other fields a reality, because their particularities require a communication with the machine or environment, and an interface for the user.

Automation, measuring and software technology have an increasingly greater impact on the value of the machine, and allow to create not only applications focused on the production process, but also added services.

Thus, and within the line of research Intelligent Automation Software, in 2006 we undertook to further develop the help software for setting the grinding process SUA Set-Up-Assistant, as a platform of services through Internet. Furthermore, we have explored the possibilities of alternative platforms (PDA's and mobile telephones) as support tools to Technical Service.

We truly believe and pursue the machine user to become part of our research and development. Precisely because of the support of the customer conveying the nature of problems in production, we can focus our developments to guarantee the applicability of technology and its complete transfer. The process, the parts to manufacture, the tools, the technical restrictions of each machine are not the problems to solve during technology transfer, but the starting data on which the R&D activity is based. This focus is adopted for example in the research line Actuators and Machine Dynamics and Monitoring and Process Control, with projects that span from mere collaboration with Fagor for adapting the control laws to their CNC, to the monitoring of

tool and diamond wear in grinding processes, and also the implementation of head speed variation techniques to enhance the stability of the machining process, something completely unfeasible without a solid base in research into machining processes and models. The results of these projects are shown in a direct industrial application.

Finally, 2006 was a year during which the Engineering Control Department made a particular effort to support the newly set up company Dano-Rail operating in the railway sector which is quite buoyant at present and moreover shows a great future outlook. The projects taken on in the scope of maintenance of railway stock are a fine example of a good part of the work fields of our department: automation of machines and production processes, support to the design of the machine from the field of control, development of user software and associated services, and the main reason behind including this project in the line of Measuring Systems: the development of new measuring systems as a differentiating technological factor, and its inclusion on the machine (patented).

The upcoming challenges we are faced with is the opening of our new facilities. The widening of our capacity allows us to move even closer to the machine user: New services in measuring, optimisation of manufacturing processes, new facilities to develop and show information technology.

The ultimate aim: place technology in the hand of the user.



.04 kontrol ingeniariatza

Teknologia erabiltzailearen eskuetan

Kontrol Ingeniaritzako departamentuan industri aplikaziorantz bideratu nahi dugu automatizazio eta kontrol teknologiak eta informazio eta neurketa teknologiak ikertzeko eta garatzeko egindako lana.

Halaber, kasu askotan beste eremu batzuetatik datozen garapenen industrializazioa ere errealitate bihurtzen laguntzen dugu, hau da, beren ezaugarriengatik makinarekin edo ingurunearekin komunikazioa behar duten eta erabiltzailearen aurrean aurpegi bat behar dutenen kasuak.

Automatizazio, neurketa eta software teknologiek gero eta pisu handiagoa dute makinaren balioan eta, produkzio prozesura zuzendutako aplikazioak sortzeaz gainera, zerbitzu erantsiak sortzea ere ahalbidetzen dute. Horrenbestez, Automatizazio Adimendunaren Softwarearen ikerketa lerroaren barruan, 2006an artezketa prozesuak prest jartzen laguntzeko softwarea handitzeko aritu gara lanean: SUA da proiektuaren izena, hau da, Set-Up Assistant, eta Internet bidezko zerbitzu plataforma bat da. Halaber, plataforma alternatiboen aukerak aztertu ditugu (PDAk eta telefono mugikorrek), LTZren euskarri tresna gisa.

Gure apustua makinaren erabiltzailea gure ikerketa eta garapen jardueran integratzea da. Erabiltzailearen parte-hartzearen ondorioz,

produkzioko arazoak kontuan hartuta, gure garapenak teknologiaren aplikagarritasuna eta erabateko transferentzia bermatzera zuzen ditzazkegu. Makina bakoitzak zer prozesu erabili, zer pieza fabrikatu, zer tresnarekin, zer muga tekniko gainditu... horiek guztiak ez dira teknologiaren transferentzian konpondu beharreko arazoak, aitzitik, abiapuntu datuak dira, I+G aktibitatea garatzeko. Ikuspegi horri jarraitu zaio, esaterako, Aktuadoreen eta Makinen Dinamika eta Prozesuen Monitorizazioa eta Kontrola ikertzeko lerroetan, proiektu horietan sartzen direlarik, besteak beste, Fagorrekiko lankidetzak, bere CNCan kontrol lege moldagarriak integratzeko, artezketa prozesuetan erremintaren eta diamantearen higadura monitorizatzea, edota buruaren abiadura aldatzeko tekniken inplementazioa, mekanizazio prozesua egonkorragoa izan dadin, izan ere, jarduera hori ezinezkoa zen mekanizazio prozesuen eta modeloen inguruan ikerketa oinarri sendo bat eduki gabe. Proiektu horien emaitzak industri aplikazio zuzena duten erakusgailuak dira.

2006 urtean, Kontrol Ingeniaritzako departamentuak ahalegin berezia egin du sortu berri den enpresa bat abiarazten laguntzeko, hau da, Dano-Rail martxan jartzeko, eta oraingoa eta etorkizuneko sektore batean sartzeko, trenbidearen sektorea. Trenbideetako errodadura mantentzeko eremuan landu diren proiektuak gure departamentuaren lan eremu gehienek adibideak dira: makinaren eta produkzio prozesuen automatizazioa, makina diseinatzen laguntza kontrol eremutik, neurketa eta makinaren integratzeko sistema berrien garapena (patente bat), erabiltzailearen softwarea garatzea eta zerbitzu elkartuak eskaintzea.

Gure hurrengo erronkei heltzeko instalazio berriak irekitzea behar dugu. Gure ahalmena zabaltzeko makinaren erabiltzailearengana gehiago hurbiltzea ahalbidetuko digu: neurketa zerbitzu berriak, fabrikazio prozesuak optimizatzen laguntza berriak, instalazio berriak informazio teknologiak garatzeko eta erakusteko.

Azken helburua: teknologia erabiltzailearen eskuetan jartzea.



XABIER ORTUETA, Managing Director of AFM

“IDEKO stands out because of its essentially practical vision”

On an international level we have been extremely active over the last few years, but a lot remains to be done in this regard. We are making our entry on new markets (China and India), we need an increasingly stronger presence with our own sales networks on several markets and we have to improve our already existing sales outlets.

Furthermore, the sector is focussing its products more and more on specific sectors-customers, to specific customer applications and consequently the standard conventional machine is being abandoned to make room for a machine with one single target, one customer, one part specifically. It is important to be aware of this, because a structure of well prepared staff, who are highly skilled and who are able to provide flexibility to the company, is required.

As a consequence, we are speaking about a product with increasingly more added value,

more customised to the application, and this implies intensive work to generate new concepts, to innovate, to develop new applications, and it is exactly here where technology centres such as **IDEKO** must act.

Technology centres are therefore essential for companies.

In the Basque Country there is a powerful network of technology centres. We can thus state that there is a wide offer of agents within R&D, and I believe that they form an important leg to stand on for companies, being complementary to their own research and development resources which gain a greater potential difficult, if not impossible to achieve within the company itself; they play an essential role providing services to the company, and I believe that these services should be as close as possible to the company; on the one hand the company must be strongly committed to planning an innovation strategy, but on the other technological centres must grow closer to the real needs of the company.

In this context, how would you define IDEKO?

Ideko is a pioneer as a technology centre in industry within the Basque Country, and already has a wide experience in this. I believe it has been a key factor in the development of machine tools, and in the cooperatives in particular. IDEKO has bonded all forces being generated within all companies.

For that reason, Ideko stands out

Brief analysis of the machine tool sector.

The machine tool sector is a strategic sector, not only in the Basque Country, but also on the domestic and international market. This sector lies at the base of all industrial production, it being involved in making strategic products for an economy (Automation, Aeronautics, Energy).

From 2002 to 2005, the sector went through a deep slump and the order portfolio and turnover were quite poor. This situation changed around little by little from the second quarter of 2005. Now, after closing 2005 with 10% more turnover and 2006 with 19% more orders and 8.2 % up in turnover, we can speak of a healthy upward trend.

We have to point out however that this growth is not universal; not all companies are doing equally well, and the profit margins have narrowed, we are faced with unfavourable exchange rates for the dollar and the yen, high rates for raw material and negative inflation differentials, and all of this affects competitiveness.

What are the challenges faced by the machine tool sector?



because of its essentially practical vision: research focused on a practical application on the market, which has also contributed to its great potential in my opinion. And something that is very important for the sector: **IDEKO** is a centre open to all companies, stretching beyond the cooperative environment.

From now on, what will be the differentiating factor in companies? Maybe its relation with technology centres.

I believe that the differentiating factor in companies evolves alongside innovation; but innovation does not only mean R&D, I'm referring to innovation in the realm of the company, and this means that one company will be different from another and more competitive than another insofar as it is capable of innovating in areas such as marketing, how it manages its human resources, the internal organisation, and of course R&D as well, which really implicitly entails product innovation, is essential. In this respect, the contribution of Technology Centres such as **IDEKO** is crucial.



JOSEBA KONDE
Kondiako presidentea

“Lan egiteko modu berriak ikasi eta mentalitatea aldatzen ari gara IDEKOREkin”

txiki samarra gara, eta ez ginen iristen informazio hori guztia jasotzera, eta horregatik jo genuen **IDEKO**ra, hutsune bat bagenuela ikusten genuelako.

Zergatik **IDEKO**? **IDEKO**, zentro teknologiko guztien artean, espezifikoa eta bakarra delako makina-erremintan, eta hori guretzat oso interesgarria zen zentro baten edo bestearen aukera egin beharra ikusi genuenean.

Gainera, argi utzi nahi dut **IDEKO**rekin elkarlanean hastea epe ertain eta luzera begira egin dugun inbertsioztat ulertzen dugula, ez gastu modura.

Elkarlan honen emaitzarik ikusten hasi al zarete?

Oraindik ere nahiko goiz da emaitzak ikusten hasteko. Hala ere, beste gauza batzuen artean, makinaren balio mailaren analisiak egiten ikasi dugu; halaber, mentalitatean eta lan egiteko moduan ere aldaketa ekarri digu harreman horrek. Lan harremana bulego teknikoarekin eta zuzendaritzarekin izaten da normalean, baina oro har, **IDEKO**ren aldetik oso jarrera baikorra ikusi dugu, eta laguntzeko prest agertu dira uneoro. Hemendik aurrera, Himach proiektua ere hor du **IDEKO**k; uste dut hori erronka handia izango dela **IDEKO**ren historian. Denbora izango da lekuko...

Zer da KONDIA?

Kondia enpresa 1952an sortu zen; guk mekanizazio zentroak ekoizten ditugu eta, horretarako, bost arkitektura desberdinetako modeloak dauzkagu. Denera hamaika makina desberdin daude eta, gure produktua, batez ere, Europan saltzen da: Alemania, Espainia eta Italia dira gure merkatu nagusiak. Produzitzen dugunaren %60 esportatzen dugu eta 100 langile gara enpresan.

Zein izan dira IDEKOREkin harremanetan jartzeko arrazoi nagusiak?

Duela urte bat eta erdi hasi ginen **IDEKO**rekin lehenengo harremanetan, eta maiatza inguruan hasi ginen batzarretan parte hartzen eta bertako jendearekin lanean. Batez ere berrikuntza teknologikoaren eta kudeaketaren alorrean izan dugu harremana eurekin, eta azkeneko hilabeteen CENIT programa dugu martxan (enpresek berrikuntzaren alorrean bide berriak jorratzeko helburua du programak).

Merkatua produktu malgutasuna ari da eskatzen, eta produktibitate handiagokoa; guk, berriz, antena teknologiko bat behar genuen. Enpresa



.05 production engineer

Support in Developing New Products

As in previous years, managing the development of new products and technology has been the core activity in the Department of Production Engineering.

Gure jarduera hiru espezializazio ildoren inguruan antolatu da: Adimen lehiakorra, Berrikuntzaren kudeaketa eta Produktuen bizitza zikloaren kudeaketa.

Adimen Lehiakorraren eremuan, 2006 urtea gure Id+ Sistema finkatu den urtea izan da; sistema horrek Produktu, Merkatu, Lehiakide eta Teknologiaei buruzko informazio estrategikoa ematen die gure bezeroei, talde mistoen existentzian oinarritutako Adimen Lehiakorreko Sistema landu baten bitartez. Sistema hori ateratzearekin batera, **IDEKO**ko Web orria bidez sar daitekeen sistema, Adimen Lehiakorreko modeloen definizioan eta garapenean egin dugu lan, makina-erremintaren eta fabrikazio teknologien eremuaren barruko zein kanpoko erakunde desberdinentzat, eta

Our activities have been organised around our three lines of specialisation: Competitive Intelligence, Innovation Management and the Management of Product Life Cycles.

In the sphere of Competitive Intelligence, 2006 was the year when our Id+ System was consolidated; this provides our clients with strategic information on products, markets, competitors and technology through a complicated System of Competitive Intelligence based on the existence of mixed units. Running parallel to the launch of the system, which is accessed through the **IDEKO** web page, we have worked on the definition and development of models of Competitive Intelligence for various organisations both within and without the field of machine tools and manufacturing technology. We have also continued to research into methods and tools which enable the department to continue to be a benchmark in the field of Technological Monitoring and Intelligence for Business.

Closely linked to the field of Competitive Intelligence is the line of Innovation Management. In 2006, through the TRANSTEK project, among others, and financed by the Basque government, we have further developed our models of innovation management and technology transfer by providing personalised alternatives made to suit the company, and developing key figures in these scenarios, such as **IDEKO's** Technology Transfer Agent. This activity, together with the definition and management of the Market and Product Plans for our clients, has been at the core of developing the line in 2006.

Finally, we turn to the field of Managing the Life Cycle of Products. In the past, it has been the Management of Reliability, Availability and Maintainability Parameters that has been at the centre of activity in this field, and to a certain extent, this is also true of 2006, with the development of the GESINFI project, among others. Funded by the INTEK programme, the

project tackles the definition of data collection protocols for machine operation through software models in CNC developed by the Control Engineering Department, which also carries out the follow up. Running parallel to this, and very important, has been the development this year of the PROLIMA project, financed by the European Commission, and working on the design of machine tools with minimal environmental impact. Finally, the Cost Engineering department has proved its worth by making large reductions in the cost of the products it has studied, projects in which **IDEKO** has proposed shared risk formulas to its clients, which have been widely accepted.

In short, this has been a year full of activity on all three lines which has enabled the department to mature in the field of research, pursuing specialisation as a technological support in the management of developing products and technology.



.05 produktu ingeniari-tza

Produktu berrien garapenaren euskarria

Aurreko urteetan bezala, Produktu Ingeniaritzaren Departamentuaren jardueraren ardatz nagusia produktu eta teknologia berrien garapena izan da.

gainera metodoak eta tresnak ikertzen jarraitu dugu, Departamentuak Zaintza Teknologikoaren eta Enpresa Adimenaren eremuan erreferentzia izaten jarrai dezan.

Adimen Lehiakorraren inguruneari oso lotuta Berrikuntzaren Kudeaketaren ildoak aurkitzen da, eta 2006 urtean, besteak beste Eusko Jaurlaritzak finantzatu duen TRANSTEK proiektuaren bidez, sakondu egin dugu berrikuntzaren kudeaketan eta teknologiaren transferentzian, enpresaren neurriari alternatiba pertsonalizatuak garatuz eta eszenatoki horietan funtsezkoak diren figurak definituz eta garatuz, hala nola **IDEKO**ren Teknologia Transferentziarako Eragilea. Jarduera hori izan da ildo

horretan 2006ko ekitaldiko jardueraren ardatza, gure bezeroen Merkatu eta Produktu Planen definizioarekin eta kudeaketarekin batera.

Azkenik, Produktuaren Bizitza Zikloaren Kudeaketaren ildoak hitz egingo dugu. Historikoki, Fidagarritasun, Erabilgarritasun eta Mantengarritasun Parametroen Kudeaketa izan da eremu horren jarduera gidatu duen eginkizuna, eta 2006 urtean ere berdin gertatu dela esan daiteke, besteak beste GESINFI proiektuaren bitartez. INTEK programak finantzatuta, proiektuak makinaren funtzionamenduaren datuak biltzeko eta ondoren tratatzeko protokoloak definitzen ditu, Kontrol Ingeniaritzako Departamentuak garatutako CNCko software moduluen bidez. Aldi berean, ordea,

urte horretan nabarmendu da PROLIMA proiektuaren garapena, zeinak, Europako Batzordeak finantzatua, ingurumen eragin minimoa duten makina-erremintaren diseinua lantzen duen. Azkenik, Kostuen Ingeniaritzaren esparrua finkatu da, aztertu diren produktuaren kostuak nabarmen murriztea lortu baita; proiektu horietan **IDEKO**k arrisku partekatutako formulak proposatu die bere bezeroei, eta oso harrera ona izan dute.

Finean, hiru ildoetan jarduera biziko urtea izan da, produktu eta teknologia garatzeko euskarri teknologiko gisa espezializatzeari begira, Departamentuari bere ikerketa ildoetan heldutasuna lortzea ahalbidetu diona.



RAFA IDIGORAS, Soralupeko Zuzendaria

Zer da Soralupe?

Soraluce Danobat taldeko kooperatiba bat da; 1988az geroztik fresadorak egiten ditugu, hortaz, enpresa esportatzailea gara eta merkaturik garrantzitsuenak Alemania eta Italia ditugu. Gaur egun, 240 pertsona inguruk lan egiten du gure instalazioetan.

Nondik dator IDEKorekin duzun harremana?

1986an MCCko 5 kooperatibak baino gehiagok sortu zuten **IDEKO**. 1999az geroztik urtero sinatzen dugu "Plan Interanual de Colaboración Soralupe-**IDEKO**" deritzaguna. Bertan erabakitzen dugu produktu eta teknologia arloetan zer lan egin behar ditugun bion artean eta lan horiek eskatzen duten aurrekontua zein den.

Nolakoa da harremana?

IDEKO hiru arlo garrantzitsutan banatuta dagoela esan daiteke: produktu departamentua, mekanika departamentua eta elektronika kontrolaren departamentua.

Batik bat, elektronika kontrolaren departamentuan egin dugu lan. Nahiz eta maila baxuago batean izan, mekanika departamentuan ere aritu izan gara eta azkeneko lau urteetan produktu departamentuan lanean egon gara produktuaren azterketak egiteko

"IDEKOk eskaintzen digun jakintzak konpetentziatik desberdintzen gaitu"

helburuarekin; 'Inteligencia Competitiva Personalizada' deritzanak garrantzi handia du guretzat egun.

Gure helburua mekanizatua ere garatzea da eta ez numerikoa bakarrik; ondorioz, azkeneko bi urteetan gogor ari gara aplikazio taldearekin. Horiek dira **IDEKO**rekin egiten ditugun lan garrantzitsuenak.

Zer lan egin dituzue batera?

Enpresa desberdinen arteko erlazioa nola hobetu daitekeen landu dugu azken urteetan. Era berean, bezeroekin dugun erlazioa hobetzea ere helburu izan dugu eta horretarako, lau arlotan talde batzuk sortu ditugu. Talde horietan Soralupeko 25 pertsona egon dira lanean. Helburua soluzioak martxan jartzea da eta, era berean, erabakiak hartzeko gai den taldea sortzea.

Gehienbat, Soralupek definitutako estrategia bultzatzeko ekintza eta lan asko dago. Hortaz, arlo desberdinetan lana ongi bideratzen saiatu gara.

Zein da elakarlanean aritzeko arrazoa?

Gero eta konpetentzia handiagoa daukagu eta kostu txikiko herrialdeetan pixkanaka makina-erreminta fabrikante berriak agertzen ari dira eta horretatik desberdintzeko estrategia berriak aurkitzen saiatzen gara. Gaur egun, teknologia arloan hartzen diren erabakiek hurrengo urteetako lana eta emaitzak definituko dituzte. **IDEKO**rekin batera hartzen ditugun erabakiak ahalik eta onenak izan behar dira, beraz.

IDEKO erreferente izan da eta izan behar da. Berak eskaintzen digun jakintzak konpetentziatik desberdintzen laguntzen digu eta alor hori da guk sustatu behar duguna.

Gaur egun, **IDEKO** eta Soralupeceren artean hurbiltasuna lortu da. Aurretik, ez zegoen gaur egunean dugun hurbiltasuna eta ondorioz, proiektu ugari bertan behera geratzen ziren. Beraz, hurbiltasun hori gordetzea izan beharko luke helburu nagusia.

Normalean, euren artean desberdintasunak dituzten enpresak daude gure sektorean. Zenbaitetan garapen teknologikoa eskasa da, baina Alemaniaren merkatuari hain atxikita egonda, teknologia garatzea ezinbestekoa da. Zentro teknologikoak dira horretan lan egin behar dutenak eta horiek dira beraiekin lan eginez guk garatu behar ditugunak.

Zein da sekretua?

Innobazioa edo berrikuntza da gure abantailarik handiena, kostuetan konpetitzea oso zaila baita.

Teknologia hurbil edukitzea enpresaren lanaren ondorio da, hortaz teknologia garatzeko lan egin behar da eta Soralupe eta **IDEKO** horretan gogor aritu dira.





VICENTE MUJIKA, Managing Director, Danorail

What is Danorail?

Danorail is a company founded three years ago in 2005, started as an idea from the DANOBAT Group, with support from **IDEKO** and CAF, to develop a product for the maintenance of railway track.

Tram, railway, etc. maintenance works require equipment which we in the organisation thought could have a good future, as it has a very high potential for development. Therefore, the idea came into being.

Why do you need to collaborate with IDEKO?

In principle, everything revolves around pit lathes; in other words, the train wheel profile is restored to shape.

During this primary stage, we are receiving help from the team at **IDEKO** with the market and competition analyses; they are preparing a detailed study of the product. Therefore, **IDEKO** is acting as the analyst in the project and studied the feasibility for us to enter into the niche market of wheel track maintenance, although it will always be with a small amount of products.

"IDEKO has played a fundamental role in the development of technology in our company".

How has the project developed?

2005 and 2006 saw the development of the engineering associated with the first prototypes. In 2006, at a fair in Geramy specialising in railways, the product and the company were presented formally, and we could see that the product was, indeed, viable from the financial, operative and marketing point of view. That is how it was decided to set up the company, the business was started and at the end of 2006, the product went on the market.

What have been the main consequences?

To date, we can talk of orders amounting to almost 8 million euros, and potential projects in the fairly short term. At the same time, we are looking into France and Portugal, where we also detect potential projects arising from CAF's participation.

IDEKO has been the base for all this: analysis, technical support...From the technological point of view, it has been a fundamental part for one of the components in the Danorail portfolio of products, such as the measuring equipment based on technology. In

conclusion, **IDEKO** has played a necessary and essential role.

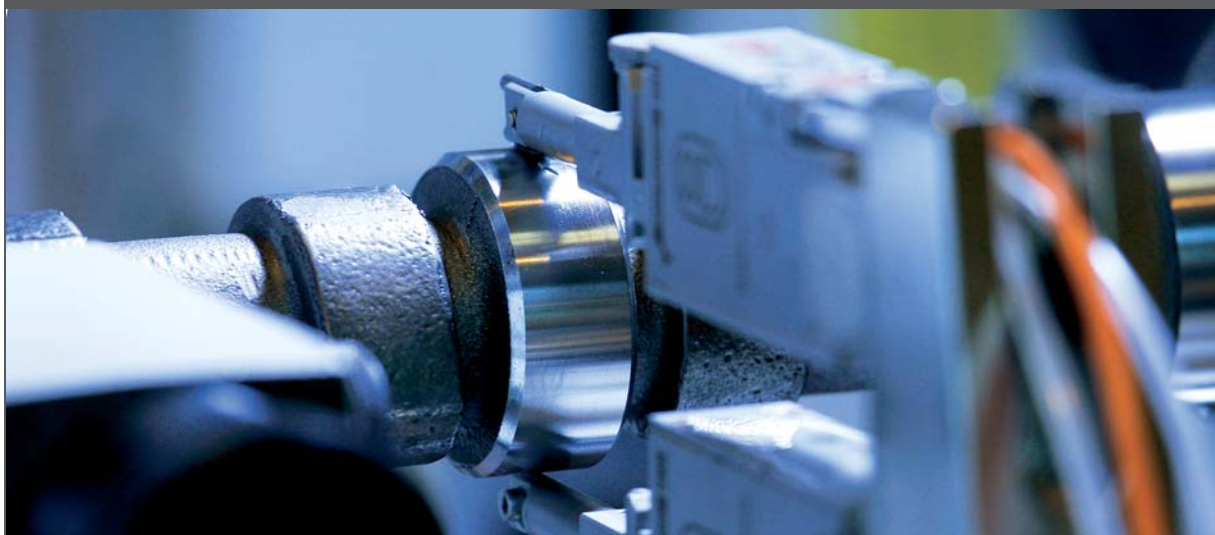
What are they doing now?

At the moment, we have just finalised a deal with **IDEKO** to carry out the analysis of what the competition might be doing, or an analysis of the movements that may be taking place on the market; they call this "**Personalised Competitive Intelligence**".

What is IDEKO bringing to your project?

Although Danorail is not an **IDEKO** product, the resources they have are being completed with projects like Danorail, as there are staff on their team working on these. In this way, Danorail now has partners and staff who were formerly with **IDEKO**, this system must be understood more as a transfer of knowledge and technology, rather than of staff.

On the other hand, the transparency we have with **IDEKO** is essential; because of this, when we work together, we try to be a team, so that there are no differences between staff from **IDEKO** and Danorail.



.06 organisation and quality

Within Quality and Organisation, 2006 has been a year of definite consolidation of the growth that has been a feature of IDEKO's activity over the last four years.

Regarding what is purely Management, it should be pointed out how well the project management process is operating and which covers almost all our activities, and whose ratings indicate the high degree of satisfaction transmitted by IDEKO's clients in the assessment surveys. Likewise, activity has centred on bringing the installations and Management System up to the ISO 14.000 environmental standard, with the aim of achieving the environmental certificate during 2007.

In financial terms, the year has been a record for our organisation, as income at staff level has broken through the 5 million euro mark. This strong financial position, guaranteed in the future by the strong order book with which IDEKO will start 2007, was necessary to offset the 3 million euros which IDEKO invested in 2006 in its new building and improving its current premises.

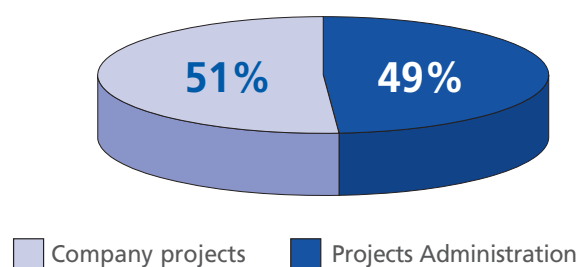
	2006	objective	2005
Difference in project delivery	69 %	60%	53%
No quality costs	1,4	5	7,5
Satisfaction surveys Customers: Services	4	4	4

EVOLUTION OF QUALIFICATION OF STAFF

	2004	%	2005	%	2006	%
Bachelor degree	13	15%	12	14%	13	15%
Master degree	44	50%	43	50%	44	51%
M. Sc	15	17%	14	16%	14	16%
Doctoral degree	6	7%	7	8%	7	8%
Others	10	11%	10	12%	9	10
TOTAL	88	100%	86	100%	87	100%

INCOME: DATA OF ANNUAL REPORT 2005 AND REAL 2006

income (Thousand €)	2004	%	2005	%	2006	%
income company	2.670	55%	2.961	60%	2.627	51%
income administration	2.193	45%	1.974	40%	2.476	49%
TOTAL	4.863	100%	4.935	100%	5.105	100%

% TURNOVER COMPANY / ADMINISTRATION 2006**PROFIT AND LOSS ACCOUNT ON 31.12.06 (THOUSAND €)**

Income projects	4.530
Other income	575
Operating expenses	4.666
Depreciation	396
SURPLUS	49

BALANCE SHEET ON 31.12.06 (THOUSAND €)

Net fixed assets	4.321
Current assets	8.045
Available assets	703
TOTAL ASSETS	13.069
Equity	4.387
Income to be distributed	6.000
Long term receivables	376
Short term receivables	2.306
TOTAL LIABILITIES	13.069

.06 antolaketa eta kalitatea

Kalitatearen eta Antolamenduaren esparruan, 2006ko ekitaldiak **IDEKO** azken lau urteetan ezaugarritu duen hazkundera finkatu du behin betiko.

Kudeaketari berari dagokionez, proiektuak kudeatzeko prozesuaren funtzionamendu ona nabarmendu behar da, gure jarduera ia-ia osorik hartzen duena; bere adierazleek **IDEKO**ren bezeroen gogobetetze maila altua erakusten dute, ebaluazio inkestetako datuetan oinarrituta. Halaber, jardueraren arretagunea instalazioak eta Kudeaketa Sistema Ingurumenaren ISO 14.000 aruari egokitzea izan da, 2007an ingurumen ziurtagiria lortzeko helburuarekin.

Azkenik, ekitaldiak errekorra ekarri du plantillaren arabera sarrerei dagokienez, sarrerek 5 milioi euroren muga gainditu baitute. Egoera finantzario on hori bermatuta dago etorkizunera begira, **IDEKO**k oso eskaera zorro handiarekin hasi baitu 2007 urtea, eta beharrezkoa izan da 2006ko ekitaldian **IDEKO**k eraikin berria egiten eta oraingo instalazioak hobetzen inbertitu dituen 3 milioi euroei aurre egiteko".

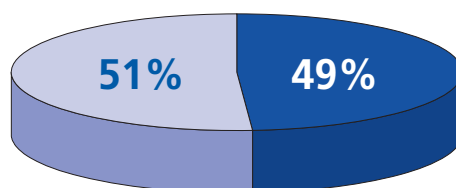
	2006	helburua	2005
Proiektuak entregatzeko desbiderapenak	69 %	60%	53%
Kalitaterik ezaren kostuak	1,4	5	7,5
Bezeroen gogobetetze inkestak: Zerbitzuak	4	4	4

LANGILEEN KUALIFIKAZIOAREN BILAKAERA

	2004	%	2005	%	2006	%
Erdi mailako tituludunak	13	15%	12	14%	13	15%
Goi mailako tituludunak	44	50%	43	50%	44	51%
Doktoregaiak	15	17%	14	16%	14	16%
Doktoreak	6	7%	7	8%	7	8%
Beste batzuk	10	11%	10	12%	9	10
GUZTIRA	88	100%	86	100%	87	100%

SARRERAK: 2005EKO MEMORIAKO DATUAK ETA 2006KO BENETAKOAK

SARRERAK (mila€)	2004	%	2005	%	2006	%
Enpresa	2.670	55%	2.961	60%	2.627	51%
Administrazioa	2.193	45%	1.974	40%	2.476	49%
GUZTIRA	4.863	100%	4.935	100%	5.105	100%

% ENPRESAREN FAKTURAZIOA / ADMINISTRAZIOA 2006

Enpresa proiektuak
 Administrazio proiektuak

**EMAITZEN KONTUA
06-12-31N (MILA €)**

Proiektuen sarrerak	4.530
Beste sarrera batzuk	575
Ustiapen gastuak	4.666
Amortizazioak	396
SOBERAKINA	49

**EGOERAREN BALANTZEA
06-12-31n (MILA €)**

Ibilgetu garbia	4.321
Egingarria	8.045
Erabilgarria	703
AKTIBOA GUZTIRA	13.069
Funts Propioak	4.387
Banatzeko sarrerak	6.000
Exijigarria epe luzera	376
Exijigarria epe luzera	2.306
PASIBOA GUZTIRA	13.069



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patents 2006 2006ko patenteak

Wheel measuring system.

Gurpilak neurtzeko sistema.

Swarf and/or dust removal system for milling with automatic clamping

Txirbila edo hautsak ateratzeko sistema fresatzeko makina baten bururako lotura automatikoz hornitua.

.08 our projects

Mechanical Engineering

Development of Micro-Manufacturing Technologies.

Intelligent hydrostatic bearings using magnetorheological fluids.

Setting up of an environment for turnkey solutions of Soralue

Development of behaviour models for centerless grinding.

Integration of chatter models in machine design.

Ultrasonic aided diamond dressing of grinding wheels.

EDM dressing of grinding wheels.

Development of ecological grinding technology.

Mixed manufacturing technology by using filler material and machining

Design of cylindrical grinding machines FG-LG.

Design of a lathe head for turning and pipe cutting for a pipeline.

Planning stage of a blade repair workshop.

Revision of State-of-Art Machining System for the Manufacturing of Irregular-Shaped Parts.

Control Engineering

Development of Measuring and Maintenance systems of Rolling Stock

Integration of Adaptive Control on a Fagor CNC Applied to a Milling Process.

Cutting Edge Grinding Software.

New Generation of Blade Measuring for Aeronautic Rotors.

Design and Automation of an Pit Lathe for Railway Maintenance.

Advanced Strategy for Efficient Shock Absorbing Control.

Modelling Software for Milling Process.

Service Platform for Setting the Centerless Grinding Process through Internet

Improving of Machining Process by Head Speed Variation: Application to Milling and Turning.

Measuring Device of Single-Pointed Diamond in Grinding.

Correction of Errors in the Milling of Sheet Metal Bevels for the Aeronautics Sector.

Application of QFT Techniques to Vibration Damping

Development of Portable Platforms for Integration of Diagnostic Functionality.

Integration of Software Modules for Monitoring of Machine and Production. Applications in Milling, Grinding and Sawing.





Ingeniaritza Mekanikoa

Mikrofabrikazioko teknologien garapena.

Kojinete hidrostato adimendunak jariakin magnetoreologikoetan oinarrituak.

Soraluceren giltza eskurako soluzioen ingurunea sortzea.

Artezketa zentrogabearen portaera modeloen garapenak.

Chatter modeloak makinaren diseinuan integratzea.

Harrien diamantaketa ultrasoinuz lagunduta.

Harrien diamantaketa elektroerosio bidez.

Artezketa ekologikorako teknologien garapena.

Ekarpen eta mekanizazio bidez fabrikatzeko teknologia mistoa.

FG-LG artezketa makina zilindrikoen diseinua.

Tornuko buruaren diseinua oliobideko tutuak torneatzeko eta ebakitzeko.

Alabeak konpontzeko tailerraren aurreproiektua.

Pieza irregularrak fabrikatzeko mekanizazio sistemen gaur egungo egoeraren azterketa.



.08 gure proiektuak

Kontrol Ingeniaritza

Tren errodadura neurtzeko eta mantentzeko sistemen garapena.

CNC Fagorren Adaptazio Kontrolaren integrazioa fresaketa prozesuari aplikatuta .

Belaunaldi berriko artezketa softwarea.

Alabe neurgailuen belaunaldi berria Aeronautikako erroreretarako.

Hobiko tornuaren diseinua eta automatizazioa Trenbideko mantentze lanetarako.

Estrategia aurreratuak moteltzearen kontrol eraginkorrerako.

Fresatzeko prozesua modelizatzeko softwarea.

Artezketa zentrogabearen prozesua prest jartzeko zerbitzuaren plataforma Internet bidez.

Mekanizazio prozesuen hobekuntza buruaren abiadura aldatzearen bidez: aplikazioa fresaketan eta torneaketan.

Diamante punta bakarraren higaduraren neurgailua artezketa prozesuetarako.

Txapazko alaken fresaketan akatsak zuzentzea Aeronautikaren sektorerako.

QFT tekniken aplikazioa bibrazioen moteltzean.

Diagnostiko funtzionalitatea integratzeko plataforma eramangarrien garapena.

Makina eta produkzioa monitorizatzeko software moduluak integratzea: aplikazioak fresaketan, artezketan eta zerraketan.

.08 our projects



Product Engineering

Design, development and starting up a model for Competitive Intelligence for the Chamber of Commerce of Bilbao.

Competitive Intelligence for Innovation

Design and development of a model for Competitive Intelligence for the Division of Metal Forming of MCC.

Systems for Customised Competitive Intelligence for the Machine Tool Division of MCC.

Analysis of use of composite material instead of wood.

Competitive Intelligence for KONDIA

Standardisation of Parts for the Machine Tool Division of MCC.

Technological support in the management of product and technology development for the Machine Tool Division of MCC.

Value Analysis of DS-630 model.

INNOGUNE bulletin 2006.

Study and development of technology transfer systems between R&D centres and Companies.

Environmental management of the life cycle of products for Machine Tool Manufacturers.

.08 gure proiektuak

Produktu Ingeniaritza

Adimen Lehiakorreko eredu bat diseinatu, garatu eta abiaraztea Bilboko Merkataritza Ganberarentzat.

Adimen Lehiakorra Berrikuntzarako.

Adimen Lehiakorreko sistema bat diseinatu eta garatzea MCCko Deformazio Dibisioarentzat.

Adimen Lehiakor Pertsonalizatu sistemak MCCko Makina-erremintaren Dibisioarentzat.

Zuraren ordezkonpositezko materialak erabiltzeko azterketa.

Adimen Lehiakorra KONDIarentzat.

Osagaien estandarizazioa eta normalizazioa MCCko Makina-erremintaren Dibisioarentzat.

Produktu eta teknologi garapena kudeatzeko euskarri teknologikoa MCCko Makina-erremintaren Dibisioarentzat.

DS-630 modeloaren balioaren analisia.

INNOGUNE 2006 buletina.

I+Gko Zentroyen eta Enpresen artean teknologiak transferitzeko eredu sistemikoen azterketa eta garapena.

Produktuaren bizitza zikloaren ingurugiro kudeaketa makina erraminta fabrikatzaileentzat.





.09 executive organs gobernu organoak

Board of Management of IDEKO IDEKOkoko kontseilu errektorea

Rafael Barrenechea, President / Lehendakaria

Iñigo Ucin, Vice-President / Lehendakariordea

José Luis Juaristi, Member / Kidea

Manuel Aguirre, Member / Kidea

Xabier Alzaga, Member / Kidea

Imanol Odriozola, Member / Kidea

Iñaki Dorronsoro, Member / Kidea

José Manuel Segués, Member / Kidea

Peio Olaskoaga, Member / Kidea

Vicente Mújika, Member / Kidea

Rafael Idigoras, Member / Kidea

Joseba Konde, Member / Kidea

Executive Board of IDEKO IDEKOkoko zuzendaritza kontseilua

Ramón Uribe-Echeberria, Managing Director / Zuzendari kudeatzailea

Iñigo Amundarain, Quality and Organisation Director / Kalitate eta Antolaketako zuzendaria

Laura de Cristobal, Financial Director and HR Manager / Finantza eta Giza Baliabideetako zuzendaria

Rafael Lizarralde, Director of the Mechanical Engineering Department / Ingeniaritza Mekanikoko Departamentuko zuzendaria

Javier Hernández, Director of the Control Engineering Department / Kontrol Ingeniaritzako Departamentuko zuzendaria

Nerea Aranguren, Director of the Product Engineering Department / Produkto Ingeniaritzako Departamentuko zuzendaria

Eskerrik asko **IDEKO**ren 20. urteurrena ospatu dugun 2006ko ekitaldiaren azterketan gurekin izateagatik.



Thank you for your attention during this review of 2006, the year of the 20th anniversary of **IDEKO**.

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Arriaga kalea, 2. E-20870 Elgoibar. Gipuzkoa

www.ideko.es