



SOUNDCAST
**VACUUM-ASSISTED HIGH PRESSURE DIE
CASTINGS WITH REDUCED POROSITY AT LOW
COST**

D6.5: Final Dissemination Plan

Instrument	Collaborative Project – Research for the benefit of SME		
Grant Agreement No.	315506	Call identifier	FP7-SME-2012-1
Start date of project	1/11/2012	Duration	37 months
Prepared by	Ana Fernández	Company	IK4-AZTERLAN
Review	1.0	Date of preparation	11/11/2015

DISSEMINATION LEVEL

Dissemination Level (choose the suitable option)	
X	PU Public
	PP Restricted to other programme participants (including the Commission Services)
	RE Restricted to a group specified by the consortium (including the Commission Services)
	CO Confidential, only for members of the consortium (including the Commission Services)

DOCUMENT MODIFICATIONS CONTROL

Review	Date	Modifications	Author/Organisation
0.0	22/10/2015	First version	Ana Fernández / IK4-AZTERLAN
1.0	11/11/2015	Revision	Andrea Niklas /IK4-AZTERLAN

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1. Introduction

This deliverable D6.5 Final Dissemination Plan reviews the dissemination strategy and approach taken by the project partners, including the dissemination channels exploited by the Consortium and the target groups addressed. The purpose of the document is to report on the dissemination and communication actions of the SOUNDCAST Consortium, and to assess the impacts achieved.

This document is the revision of the preliminary version: “Deliverable 6.3: Draft dissemination plan” submitted in Month 9.

2. Dissemination activities

Although, SOUNDCAST is a research project with restricted access, a notable effort for the dissemination of the project results has been undertaken. The progress of the project and its results have been disseminated through different channels:

- SOUNDCAST Web page.
- Communication of major results to broad public through all available dissemination channels.
- Participation in fairs and conferences related with the relevant subjects of SOUNDCAST project.

The approach was adjusted for each dissemination action to the particular target groups – industrial and scientific communities.

Target group for dissemination activities

In order to maximize the success of the commercial exploitation, the target groups for dissemination and exploitation have been defined. For all these target groups a full set of traditional dissemination tools accompanied by innovative dissemination activities were carried out:

Sector 1: HPDC foundries

Sector 2: Raw materials suppliers

Sector 3: Auxiliary equipment suppliers for HPDC foundries

Sector 4: End users

Sector 5: Scientific community

- **Communication Channels and Tools:** Dissemination of information for this target group will be mainly carried out by means of a list of events already identified:
 - o Dissemination of project report by electronic means (Soundcast project Web).
 - o Workshops, seminars, etc.
 - o Dissemination of Soundcast project on conferences.
 - o Publication in Scientific journals or magazines.
 - o Elaboration of Reports and Guidelines.
 - o Distribution of flyers by electronic means and in international Fairs.
 - o Information dissemination on partner Websites.
- The dissemination activities were conducted throughout the whole course of the project, and all the partners contributed to communicating the idea, objectives and results of the SOUNDCAST project. Moreover, the industrial partners have focused on approaching relevant industry sectors and potential markets and customers in several fairs. The participating research partners approached dissemination with an academic focus. Undertaken dissemination activities produced noticeable results in terms of interests expressed by potential stakeholders in the developed solution.
- The consortium was always informed about all dissemination activities of the foreground to protect the interest of SMEs. The authorization of the consortium before any dissemination activity was agreed. Necessary actions to protect the foreground were evaluated and dissemination activities were in some cases delayed until a decision on how to protect such foreground was made.

2.1 SOUNDCAST Project Image

2.1.1 SOUNDCAST logo

Corporate image: a logo was designed that has been used in any dissemination. The image has been available to all partners or users since the very beginning of the project.



Figure 2.1.1 Logo of the project

Trademark: Soundcast®
has been registered as
trademark in Spain
November 2015

Ministerio de Industria, Energía y Turismo
Oficina Española de Patentes y Marcas

Página Nº 1
NÚMERO SOLICITUD: _____

SOLICITUD DE REGISTRO DE MARCA

(1) TIPO DE MARCA
☒ MARCA DE PRODUCTOS O SERVICIOS
☐ MARCA DIVISIONAL
☐ MARCA COLECTIVA
☐ MARCA TRANSFORMADA

(2) DATOS COMPLEMENTARIOS PARA MARCAS DIVISIONALES Y TRANSFORMADAS
 EXP. ORIGEN: _____ NÚMERO: _____ F. SOLICITUD: _____
 F. PRIORIDAD: _____ F. CONCESIÓN: _____ DIVISIÓN: _____
 CLASES: _____

FECHA, HORA Y MINUTO DE PRESENTACIÓN EN OEPM: _____
 LUGAR, FECHA, HORA Y MINUTO DE PRESENTACIÓN EN LUGAR ASISTIDO OEPM: *Bilbao 10:23A*

1. DATOS DEL SOLICITANTE

(1) SOLICITANTE: APELLIDOS O DENOMINACIÓN SOCIAL: *MARISTAS AZTERLAN* NOMBRE: _____ D.N.I./N.I.F.: *R48005021* C.N.A.E.: _____ P.T.M.E.: _____
 CALIFICACIÓN: *942344* D.N.I./N.I.F.: *942344* D.N.I./N.I.F.: _____
☐ SI QUIERE EN PÁGINA ANEXA

(2) DIRECCIÓN DEL SOLICITANTE: ESTADO DE RESIDENCIA DEL SOLICITANTE: *ESPAÑA* ESTADO DE ESTABLECIMIENTO DEL SOLICITANTE: *ESPAÑA*
 DIRECCIÓN DEL SOLICITANTE: CALLE, PLAZA, NÚMERO, PISO, ETC.: *ALIENALDE AUZENECA Nº 6* CÓDIGO POSTAL Y LOCALIDAD: *48200 DURANGO* PROVINCIA: *BIZKAKIA* PAÍS: *ESPAÑA*
 DIRECCIÓN DE NOTIFICACIONES: CALLE, PLAZA, NÚMERO, PISO, ETC.: *ALIENALDE AUZENECA Nº 6* CÓDIGO POSTAL Y LOCALIDAD: *48200 DURANGO* PROVINCIA: *BIZKAKIA* PAÍS: *ESPAÑA*

(3) DIRECCIÓN CORREO ELECTRÓNICO DEL SOLICITANTE: *ADMINISTRACION@AZTERLAN.ES* Nº FAX: *946215471* Nº TELÉFONO: *946215470* INDICACIÓN DEL MEDIO DE NOTIFICACIÓN PREFERENTE:
☐ CORREO ☒ CORREO ELECTRÓNICO ☐ FAX

(4) INDICACIÓN DEL ESTABLECIMIENTO DEL SOLICITANTE: SI NO EN EL TERRITORIO DE LA COMUNIDAD AUTÓNOMA DEL LUGAR DE PRESENTACIÓN: _____

2. DATOS DEL REPRESENTANTE

(1) REPRESENTACIÓN:
☒ EL SOLICITANTE NO ESTÁ REPRESENTADO POR: ☐ AGENCIA PROPIEDAD INDUSTRIAL ☐ EMPLEADO DE LA EMPRESA ☐ OTRO REPRESENTANTE

(2) APELLIDOS DEL REPRESENTANTE (Y NOMBRE DE LA AGENCIA DE LA PROPIEDAD INDUSTRIAL): _____ NOMBRE: _____ C.D. AGENTE P.I./N.I.F.: _____

3. ÍNDICE DE DOCUMENTOS QUE SE ACOMPAÑAN Y FIRMAS

(1) ÍNDICE DE DOCUMENTOS QUE SE ACOMPAÑAN:
☒ REPRODUCCIÓN DE LA MARCA ☐ CERTIFICADO PROPIEDAD INDUSTRIAL
☐ FIRMAS DEL REPRESENTANTE ☐ TRADUCCIÓN CERTIFICADA DE PROPIEDAD
☒ JUSTIFICANTE PAGO TASA SOLICITUD ☐ CERTIFICADO PROPIEDAD INDUSTRIAL
☐ JUSTIFICANTE PAGO TASA PROPIEDAD ☐ TRADUCCIÓN CERTIFICADA P. EXPOSICIÓN
☐ REGLAMENTO DE USO ☐ INFORME ☐

FIRMA DEL SOLICITANTE O REPRESENTANTE: *Xel. G. W.* (2) NÚMERO DE FOLIOS DE SOLICITUD: *4*
 FIRMA DEL FUNCIONARIO: *[Firma]* CONFIRMACIÓN DE PAGOS FUNCIONARIO: _____

ADVERTENCIA: POR DISPOSICIÓN LEGAL LOS DATOS CONTENIDOS EN ESTA SOLICITUD, SALVO N.I.F., DIRECCIÓN ELECTRÓNICA, Nº DE FAX Y TELÉFONO, SERÁN PUBLICADOS EN EL BOLETÍN OFICIAL DE LA PROPIEDAD INDUSTRIAL E INSCRITOS EN EL REGISTRO DE MARCAS DE LA OEPM, SIENDO AMBAS BASES DE DATOS DE CARÁCTER PÚBLICO Y ACCESIBLES VÍA REDES MUNDIALES DE INFORMÁTICA.

OFICINA ESPAÑOLA DE PATENTES Y MARCAS
 Información@oepm.es www.oepm.es

PSO. CASTELLANA, 75 - 28071 MADRID

2.1.2 Acknowledgment information for dissemination purposes

All presentations and posters related with SOUNDCAST must show the flag of the EU, the logo of the FP7 and the SOUNDCAST logo. The acknowledgment data for dissemination activities is: "The research leading to these results has received funding from the European Union's Seventh Framework Programme managed by REA-Research Executive Agency <http://ec.europa.eu/research/rea> (FP7/2001/2013) under grant agreement No.315506."



Figure 2.1.2: Flag of EU and FP7 logo.

2.1.3 SOUNDCAST Deliverables, Reports and Presentation Template

Different documents were generated during the whole life of the project, and all of them should have been prepared in accordance with a standard format. In this sense, templates are available for:

- a) ppt Presentations
- b) Deliverables
- c) Internal Report: Progress Reports
- d) Meeting Agenda
- e) Attendance Register
- f) Meeting Minutes
- g) Contractual Reports: Periodic Reports

Annex I includes a picture of the above-mentioned templates.

2.2 SOUNDCAST Dissemination Channels

The SOUNDCAST project consortium has exploited the following dissemination channels during the project course:

- Online Dissemination
- Non-Electronic Dissemination
- Interactive Dissemination

Each dissemination channel is further discussed in the sub-sections below.

2.2.1 Online Dissemination

The basic online dissemination tool used during the project course is the SOUNDCAST project web site available at: <http://www.soundcastproject.eu>. The web site is already described in the deliverable D6.1 Project website, submitted at month 3 of the project. The focus of describing this tool within this deliverable will be on its use for dissemination purposes (see Section 3.1).

The project web site were also used as a document repository and partners' collaboration platform during the whole project duration.

2.2.2 Non-Electronic Dissemination

The non-electronic dissemination refers to dissemination materials produced during the project course, involving SOUNDCAST project brochures, posters and flyers. Furthermore, the publications in specialized journal and newspapers, as well as publications in scientific and industrial journals and magazines are significant communication tools towards focused target groups. Conference papers submitted and presented are also an example of SOUNDCAST project non-electronic dissemination.

2.2.3 Interactive Dissemination

During the project course the partners have organized and attended numerous events: trade fairs, exhibitions, academic and commercial conferences and workshops. The interactive channel of dissemination is intended for target groups with a high level of

information need. The interactive channel is very efficient and with a high impact on dissemination and exploitation.

3. Reporting on Dissemination Activities

As it was described in deliverable 6.3: “Draft dissemination plan”, during the first 9 months of the project, no publication or paper were presented because there were no results to disseminate. However, different actions were performed to disseminate the Soundcast project and its objectives by means of a newsletter, a technical conference and several publications on sectorial newspapers, as will be described later on.

Consortium has already taken part in sectorial meetings, with different associations or industrial representative agents, where the project was mentioned, several congress were attended and future congresses are planned.

The following describes the dissemination activities carried out since the beginning of the project and highlight those activities with the highest impact on the European foundry industry.

The interim dissemination report (for the first 9 months) is integrated in this Final Report. Each partner reported the activities realized and which are summarized in the following.

3.1 Web Site Dissemination

3.1.1 Project Web site

The project web site is available since the beginning of SOUNDCAST project. It is accessible at: <http://www.soundcastproject.eu/>. Once the project is ended, the website will remain available at least one year.

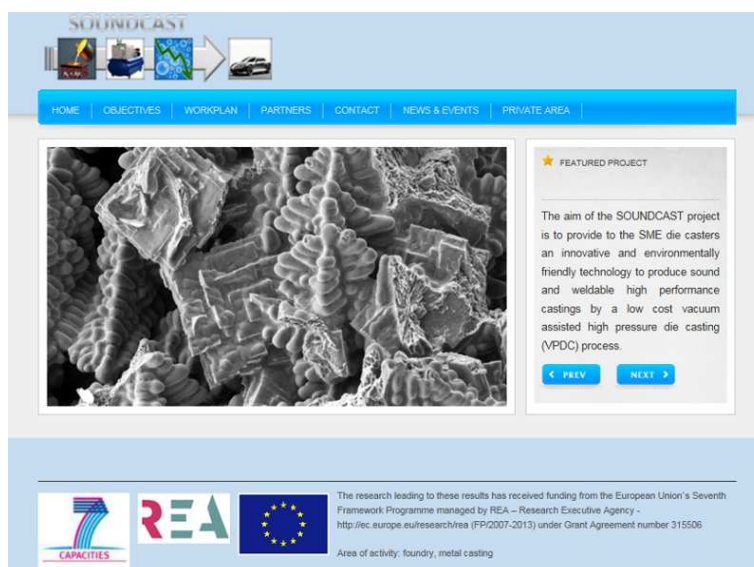


Figure 1.1.1.: Soundcast Web site (<http://www.soundcastproject.eu/>).

The project web page (www.soundcastproject.eu) will be the tool for centralizing the dissemination of the SOUNDCAST project to a wider community. For this reason a user friendly website has been designed, focusing on the main key points of the project. In order to attract a wider spectrum of visitors, the website is not focusing on complex technical details but on the real applications and expected outcomes of the project.

The web page has 4 main elements:

1. Banner with SOUNDCAST logo and leitmotiv
2. Menu Bar for navigation
3. Main body containing the information of each section
4. Footer with grant agreement details

The webpage has been divided in 7 sections:

- **Home:** webpage cover. A picture slider has been included so the pictures change automatically after few seconds. Different pictures are displayed and the user can change between with the navigation arrows.
- **Objectives:** describes the objectives and expected impacts of the project, focusing on the new developments.
- **Workplan:** shows the workplan of the project and the workpackage structure. Given that this project is centered on a technological need and challenge that is experienced by a large community of European SMEs, the work plan has been based on a bottom-up, industry driven approach.
- **Partners:** describes the project consortium. Includes the logo of every partner, a brief description and a direct link to their websites.
- **Contact:** shows the contact information of the project coordinator.
- **Private Area:** This section links to the Procemm website which is the chosen online solution for the project management. PROCERM is an open source internet-enabled system for use in projects that require collaboration over the internet and can be used on an intranet, an extranet, or both.

Keeping the website updated is nowadays a must, because the information flows are faster than ever. For this reason, any new releases, events, participations in fairs etc, are updated on the website periodically.

The main outcomes and public deliverables, demo tests and relevant results for the industry will also be an important feature of the website.

3.1.2 Partners Web Sites:

To increase visibility of SOUNDCAST project, several partners implemented within their own website a link to project website and several news.

VDS: <http://www.vdssa.ch/en/index.php>

EURECAT (ASCAMM) <http://www.ascamm.com/2013/03/20/ascamm-desenvolupa-tecnologia-per-al-proces-de-fosa-de-metalls/>

TU-BS: <http://www.ifs.tu-braunschweig.de/forschung/laufend/leichtmetall-druckguss/eu-315506/>

IK4-AZTERLAN:

- http://www.azterlan.es/en/difusion_tecnologica.aspx: present a brief summary of the project
- http://www.azterlan.es/en/actualidad_ficha.aspx?origen=actualidad&id=6d63a410-5a76-415f-89e6-be0295750cfb&pagina=0: summary of the oral presentation of Soundcast results at Conference on Heat Treatment 2015 and 22nd Heat Treatment and Surface Engineering Congress.
- http://www.azterlan.es/en/actualidad_ficha.aspx?origen=actualidad&id=a407a285-5204-40ca-bc54-23f931ea5d02&pagina=1: IK4-Azterlan consolidates the research line on light alloys and aluminum transformation processes with the participation in a new European project in this field.

3.1.3 CORDIS Web Page

As every EU funded project, SOUNDCAST is published for special promotion on the CORDIS Web Page in collaboration with the EU.

- http://cordis.europa.eu/project/rcn/105850_en.html
 - Result In Brief: Eco-friendly low-porosity casting
 - Report Summaries: Periodic Report Summary 1 - SOUNDCAST (Vacuum-assisted high pressure die castings with reduced porosity at low cost)

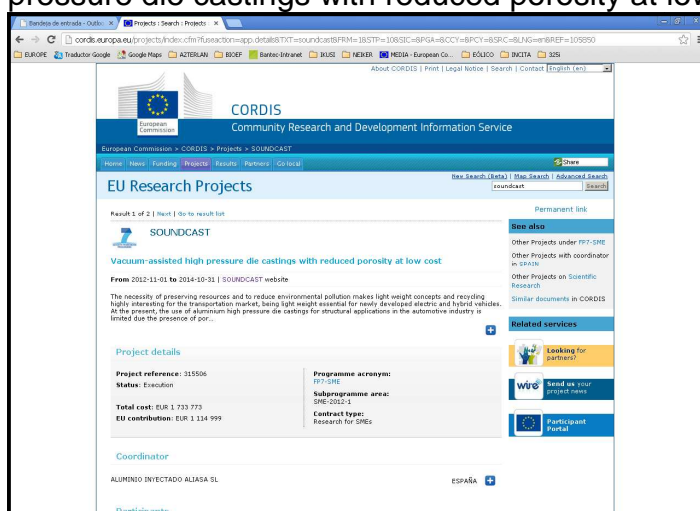


Figure 3.1.2: Soundcast – Cordis Web page

3.2 Industrial, Business Dissemination

The goal of the industrial and business dissemination activities is to raise awareness within the European casting related organizations, especially SMEs, and wider (general) public about the activities and results of the SOUNDCAST project.

The following sections provide detailed information on all publications, attended events and other types of dissemination involvement related to industrial and business dissemination.

3.2.1 Fairs dissemination

Casting sector is very active in Fair and International Expositions as it could be seen in the following table of activities in which Soundcast project dissemination has been performed.

Link or reference Date Location	Partner Exhibitor stand / Attendance
<p>10th EUROGUSS</p> <p>Biannual International Trade Fair for Die Casting</p> <p>14-16 January 2014</p> <p>Nuremberg (Germany)</p>	<p>VDS exhibitor stand</p>  <p>EURECAT (previous Ascamm) exhibitor stand</p> 

	<p align="center">D6.5: Final Dissemination Plan</p>	 
<p align="center">Link or reference Date Location</p>	<p align="center">Partner Exhibitor stand / Attendance</p>	
<p>10th EUROGUSS Biannual International Trade Fair for Die Casting 14-16 January 2014 Nuremberg(Germany)</p>	<p>Chem-Trend exhibitor stand</p>    <p>Attendance: - TU-BS: H. Pries, C. Garthoff and C. Borner - IK4-AZTERLAN: A. Bakedano and A. Fernández</p>	
<p>10th METEF Biannual International fairs for the aluminium, technological metals, and foundry sector 11-13 June 2014 Verona, Italy</p> <p>400 exhibitors 10000 visitors (http://www.tradefairdate.com/metef-M7767/Verona.html)</p>	<p>VDS exhibitor stand</p>  <p>Chem-Trend exhibitor stand <i>Same flyer than at Euroguss</i></p> <div data-bbox="1026 1626 1332 1982">  </div>	

Link or reference Date/Location	Partner Exhibitor stand / Attendance
71st WFC World Foundry Congress and International Exhibition (biannual) 19-21 of May 2014 Bilbao (Spain) 1.200 people	IK4-AZTERLAN exhibitor stand <i>New flyer and a short video were presented</i>  
13th GIFA International (every four years) 16-20 of June 2015 Düsseldorf, (Germany) 942 exhibitors 48783 visitors http://www.expodatabases.com/tradeshow/gifa-international-foundry-trade-fair-with-wfo-technical-forum-257.html	VDS exhibitor stand  
	Chem-Trend exhibitor stand 
	IK4-AZTERLAN exhibitor stand  

<p>Link or reference Date/Location</p>	<p>Partner Exhibitor stand / Attendance</p>
<p>13th GIFA International (every four years)</p> <p>16-20 of June 2015</p> <p>Düsseldorf (Germany)</p> <p>942 exhibitors 48783 visitors</p> <p><a href="http://www.expodatabas
e.com/tradeshow/gifa-
international-foundry-
trade-fair-with-wfo-
technical-forum-257.html">http://www.expodatabas e.com/tradeshow/gifa- international-foundry- trade-fair-with-wfo- technical-forum-257.html</p>	<p>EURECAT exhibitor stand</p>  <p>ASCAMM TECHNOLOGY CENTRE</p> 

3.2.2 General, Industrial and Business Publications

Title of Publication	Publication reference	Date impact	Authors (partners)
<p>IK4-Azterlan's place its faith in the development of structural automotive parts at low prices</p>	<p>Empresa XXI</p> <p>Sectorial newspaper addressed to Basque Country industries</p>	<p>1st April, 2013</p> <p>8,418 copies per issue</p>	<p>Ana Fernández, IK4-Azterlan</p>
	<p>IK4-Azterlan apuesta por el desarrollo de piezas estructurales de automoción a bajo precio</p> <p>Participa en el proyecto europeo Soundcast para crear aleaciones de aluminio reciclado</p> <p>► IK4-Azterlan aportará a la industria de fundición un mayor valor añadido al trabajar en la actualidad en el desarrollo de piezas estructurales de automoción a bajo coste. En el marco del proyecto europeo Soundcast, el centro de investigación metalúrgica se encuentra inmerso en la creación de nuevas aleaciones de metal recuperado.</p> <p>ARANA USORIO, Donostia</p> <p>Desarrollar piezas retratadas de automoción a bajo coste es el objetivo final del proyecto europeo Soundcast, en el que participa el Centro de Investigación Metalúrgica (IK4-Azterlan) bajo el liderazgo del Grupo Alkasa. La idea es promover a las fundiciones aleaciones nuevas, aleaciones de aluminio reciclado, así como procesos productivos con aplicación de vacio y fabricación de bajo desarrollo gaseoso que les permitan producir piezas con diversas propiedades mecánicas y alta soldabilidad a un menor coste. En decir, el precio de las materias materiales y la tecnología desarrollada permitirán la expansión del campo de aplicación de las producciones fundición al conseguir importantes mejoras tecnológicas con un alto poten-</p> <p>cial de aplicación en los sectores de automoción y aeronáutica. Según los datos previos, existen largos prototipos de piezas reales para 2015. Como explica la investigadora del Área de Ingeniería, I+D y Procesos de Fundición de IK4-Azterlan, Ana Fernández, "las composiciones estructurales de automoción son piezas con altas requerimientos mecánicos y su fabricación y acabe hoy están sólo el alcance de grandes empresas de fundición. En la actualidad se aplican en coches de alto gama de Audi, Mercedes y Porsche". Por este motivo, el propósito del proyecto es "demostrar las aleaciones y la tecnología de fabricación de estas piezas y abrirlos a un mercado mucho más amplio".</p> <p>Para conseguirlo, el proyecto contempla la aplicación de la tecnología de vacio en el molde a la vez que se optimiza el tipo, la aplicación y cantidad de lubricante a aplicar, además de la optimización del diseño. La cuestión es que, para poder fabricar el molde, es necesario desarrollar aleaciones que contrarresten los efectos perjudiciales de la mayor cantidad de impurezas procedentes del reciclado. Por este motivo, IK4-Azterlan trabaja en la actualidad en el desarrollo de nue-</p>	 <p>Investigadores en la sede de Azterlan.</p> <p>Proyecto Soundcast</p> <p>Objetivo: Desarrollar piezas estructurales de automoción a bajo coste, lo que conlleva la creación de nuevas aleaciones de aluminio reciclado, procesos productivos con aplicación de vacio y fabricación de bajo desarrollo gaseoso. Existen largos prototipos de piezas para finales de 2015.</p> <p>Marco: VI Programa Marco de la Unión Europea.</p> <p>Partners: Liderado por el Grupo Alkasa (Fundiciones Alkasa e Inductal), participan en el proyecto Orica VDS, Chemetall, Autocore, Accuray y TVS.</p> <p>vas aleaciones de metal recuperado o lo que se lo mismo, de material reciclado que sustituya a las aleaciones provenientes de mineral. De este modo, se crean nuevas aleaciones, la técnica de secundarización y los métodos de control del metal, según explica Fernández. La investigadora también destaca los beneficios medioambientales del proyecto, ya que "sólo necesitamos un 5 por ciento de energía para obtener aluminio reciclado. Gastos menos en 90 por ciento menos de energía para extraer aluminio reciclado que lo que gastáramos si procediese de mineral. Además, se pro-</p> <p>sument el uso de tratamientos térmicos con menor consumo energético, lo que da el mismo resultado con reducciones de las emisiones de CO2 y la valorización de la chillería de aluminio.</p> <p>El centro metalúrgico afirma con este proyecto se presenta en el ámbito del aluminio, más concretamente en el desarrollo de aleaciones recicladas y en los procesos de recuperación en alto vacio.</p> <p>El Impacto de Soundcast en el consumo europeo será muy importante, si se tiene en cuenta que Europa fabrica un 20 por ciento de toda la producción mundial realizada mediante procesos de fundición y que en la actualidad se está produciendo incompatibilidad en beneficio de los países emergentes.</p> <p>Como explica desde IK4-Azterlan, el sector transportes está claramente demandando nuevas tecnologías y materiales que maximicen las propiedades de las aleaciones más ligeras. En los últimos años, la reducción de peso en los vehículos es importante factor para cumplir los requerimientos de la Unión Europea de 140 g/Km para 2015 y de 90 g/Km para 2020. En este contexto, ofrecer a la industria de fundición un valor añadido a bajo coste contribuirá a su competitividad.</p>	
<p>SOUNDCAST Publication on Empresa XXI</p>			
<p>Ascamm develops technology for the process of casting metals</p>	<p>Asociación Española de “Rapid Manufacturing”</p>	<p>7th March 2013</p>	<p>Manel da Silva, ASCAMM</p>
<p>Ascamm develops technology for the process of casting metals</p>	<p>Parc Tecnològic del Vallès</p>	<p>21st March 2013</p>	<p>Manel da Silva, ASCAMM</p>
<p>Ascamm develops technology for the process of casting metals</p>	<p>Diari de Sabadell, newspaper addressed to general public</p>	<p>26th March 2013</p> <p>Estimates reveal that there were 22,672 visits in news section.</p>	<p>Manel da Silva, ASCAMM</p>

Title of Publication	Publication media reference	Date impact	Authors (partners)
Ascamm heads research for new technologies focused on casting metal process	Interempresas Newspaper	10 th April 2013 Estimates reveal that there were 24,568 visits in news section	Manel da Silva, ASCAMM
ASCAMM develops technology for casting metal process	Revista FUNDIPress No. 47, April 2013, p. 14 addressed to Spanish casting industry	14, April 2013	Manel da Silva, ASCAMM



SOUNDCAST Publication at Diari of Sabadell

Development of a new secondary aluminium alloy with high performance for the HPDC industry	IK4 Newsletter addressed to IK4 research alliance community researchers	4 th June, 2013 1,200 researchers and technicians	Ana Fernández, IK4-Azterlan
IK4-Azterlan promotes the development of structural components at low cost	INTEREMPRESAS newspaper addressed to Spanish industries	17 th May 2013 8.118 copies per issue	Ana Fernández, IK4-Azterlan





SOUNDCAST Publication at IK4 Newsletter and Interempresas.

Title of Publication	Publication media reference	Date impact	Authors (partners)
IK4-AZTERLAN promotes that “Soundcast project is the answer to the need for democratization of high integrity light weight structural castings”	Regional Review, European Parliament Journal page 20 (printed copies)	October 2015 Provided to all 751 MEPs (Members of EU Parliament) It has been circulated throughout the European Commission, Committee of the Regions, the European Council and for the 6,000 regional and municipal delegates attending the Committee of the Regions’ OPEN DAYS Week of Europe’s Regions and Cities	Ana Fernández, IK4-Azterlan
	The Parliament Magazine website (on-line) https://www.theparliamentmagazine.eu/articles/magazines/regional-review-october-2015	Parliament Magazine website is receiving 75,000 visits per month from institutions, companies, NGO’s, charities, regional governments and development agencies all over the European Union	



SOUNDCAST PROJECT IS THE ANSWER TO THE NEED FOR DEMOCRATIZATION OF HIGH INTEGRITY LIGHT WEIGHT STRUCTURAL CASTINGS

Global warming and resource shortages have led to an urgent demand for reducing vehicle weight. Since the first AUDI A8 was introduced in 1994 structural aluminum parts have been successfully manufactured by vacuum isolated High Pressure Die Casting (HPDC) technology. However, it is still an expensive solution and only affordable for upper class cars.

Soundcast project offers an opportunity for car manufacturers (in particular of electric or hybrid vehicles) to exploit the advantages of the technologies developed in the project.

"If we can reduce just a few kilos of metal from a massive automobile weight, we can deliver an impact that is multiplied by millions," said Ana Fernández, Project coordinator, SOUNDCAST.

AN OPPORTUNITY FOR SME FIRMS

It is worth to mention that Soundcast technology is perfectly suited to small and medium foundries. At the present this advanced technology is in the demonstration phase in two SME foundries located in Germany and Spain.

Headquartered in Durango, Spain, IK4-AZTERLAN is a non profit research centre with more than 40 years of experience providing and promoting knowledge that strengthens the metal casting industry in Europe.

The project has received funding from the European Union's Seventh Framework Programme (Horizon 2010) under grant agreement No. 315500.

For more information of the project please visit: WWW.SOUNDCASTPROJECT.EU

Project coordinator info: IK4-AZTERLAN www.azterlan.es Ana Fernandez, anafernandez@azterlan.es

ALTERNATIVE SECONDARY ALLOY

The use of secondary alloys, which are cheaper than primary, does not only reduce the fabrication costs but also lead to a reduced energy and CO2 emissions. The production of secondary alloys requires 95% less energy than the one required for primary alloys (EPA, 2012 Key facts and figures). Additionally, the higher Fe content typical of secondary alloys, reduces significantly die soldering and thus die maintenance costs.

Chemical composition, melt and heat treatment of the new secondary alloy have been fully optimized for manufacturing high integrity light weight structural castings by HPDC. A similar procedure had already been successfully applied by IK4-AZTERLAN to another new secondary alloy, patent EP 2471387, employed for other automotive applications such as suspension and brake components. However, the spread of use of secondary alloys for high integrity castings need an additional driving force to overcome market barriers typical for recycled materials. Policy makers could help in this promotion.

AN OPPORTUNITY FOR LIGHT WEIGHT DESIGN

In the automotive industry, it is essential to lower manufacturing costs as well as reduce CO2 emissions by lighter weight designs. Vacuum assisted HPDC is very suitable for manufacturing thin walled high integrity castings with a significant weight reduction.



European authorities must work together to find cross-border solutions to common problems

Macro-regional strategies (MRSs) are integral frameworks adopted to address common challenges faced by member states and third countries located within the same geographical area.

When facing issues of geographical, cultural, environmental or economic challenges, national borders become irrelevant and common cross-border solutions must be identified. Currently, we do not have a standard definition of a macro region in the EU. However, a macro-region can be considered as a number of regions in a variety of countries coming together, building stronger relationships and working on collaborative solutions to common challenges. Macro-regions, therefore, might be considered a new form of territorial cooperation, able to include both an interregional and a transnational level of cooperation.

A well-developed, well-functioning MRS offers a unique opportunity for the EU to achieve several objectives. These include the increasing the involvement of local and regional authorities in the implementation phase of EU programmes, policies and legislation, more efficient and better coordinated use of available funds, particularly relevant following the financial crisis, the capacity to close the gap between EU and non EU countries on specific priorities and legislation and pushing third countries towards a closer cooperation with the EU.

MRS is the first implementation tool underpinning the territorial cohesion concept. The concept is aimed at increasing territorial cooperation in Europe. The union has gone geographically in the last few decades, creating more complex challenges and solutions. This is why we should use the opportunity offered by MRS to develop close cooperation between regions with similar problems and opportunities. Hence, MRSs are particularly useful when trying to find new approaches for common challenges.

There is no unique model of MRS. We need to avoid the one-size-fits-all approach, instead adapting our strategy to the reality on the ground. The existing MRSs, for example, have always been created around regions with water issues. The last MRS launched, the Alpine strategy, focused on mountain and the unique issues specific to these areas. Regions around the Alps are not just mountainous, they also include rural areas, bigger more industrialised urban areas and stretches of water and rivers. A single model for all MRSs will not be effective and will not work, a flexible approach is clearly vital for success.

MRS may provide a unique chance to achieve better, more strategic planning and a more cost-effective use of European funds. To achieve this we must aim not only at national, regional and local level, but also at macro-regional level in Europe. We should all be aware of our differences but also be prepared to face common challenges and opportunities together.

Mercedes Bresso (S&D, IT) is a member of Parliament's committee on regional development.

October 2015 PARLIAMENT MAGAZINE 25

SOUNDCAST Publication at Regional Review, European Parliament Journal (Printed copies& on-line)

The automotive industry searches for lighter and sustainable alloys	AGENCIA SINC Estrategia empresarial Nº: 502	18 noviembre 2015 16-30 noviembre 2015	Ana Fernández, IK4-Azterlan
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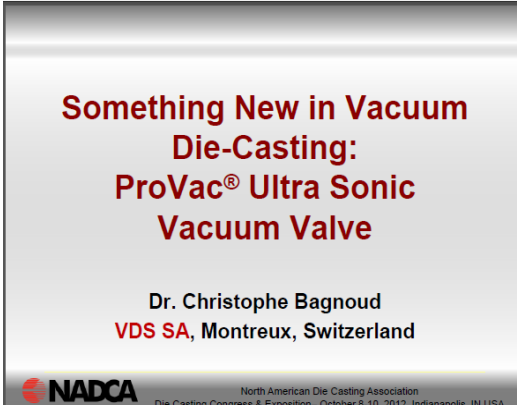
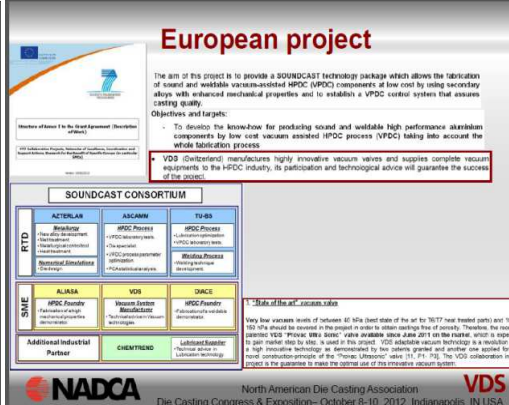
3.3 Scientific Dissemination

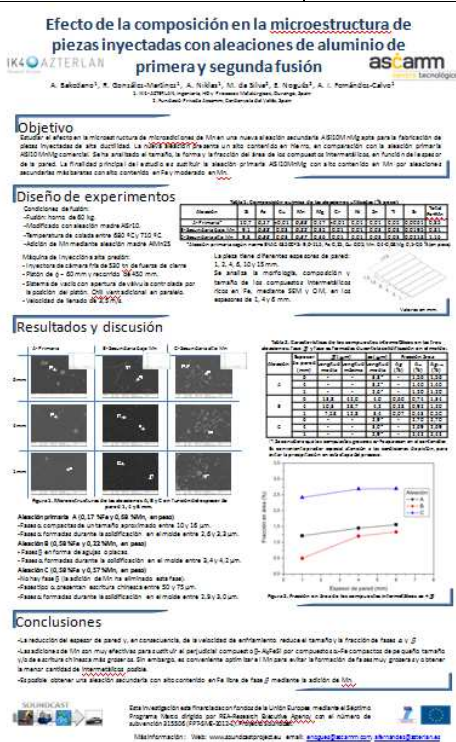
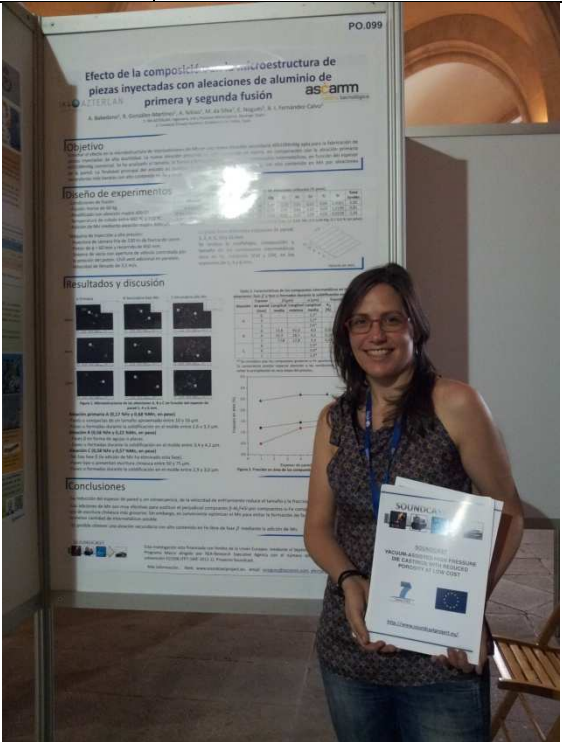
The goal of the scientific dissemination activities is to raise awareness within the European and International R&D scientific and academic communities about the activities and results of the SOUNDCAST project.

Scientific publications of the SOUNDCAST project results are part of Conferences presentation, poster and printed papers. The academic papers published by the SOUNDCAST partners are either individual publications, with one project partner involved per publication, or joint publications by two or more partners.

The following sections provide detailed information on the publications published in journals, as well as conference papers submitted and attended events.

3.3.1 Scientific Publications












Title of the article	Name Date of the event	Organization: Name of authors (attendance people)	Size and type of audience
Something New in Vacuum Die-Casting: ProVac® Ultra Sonic Vacuum Valve (Oral presentation)	NADCA: Die Casting Congress & Exposition 8-10 October, 2012 Indianapolis, USA	VDS: <u>C. Bagnoud</u>	International Scientific & Die Casting industries (HPDC industries)
<div style="display: flex; justify-content: space-around; align-items: center;">   </div>			
Microstructural features of primary and secondary ductile high pressure die casting alloys for the automotive industry (Oral presentation & paper on CD proceedings)	71 st WFC (World Foundry Congress) 19-21 of May 2014 Bilbao, Spain	IK4-AZTERLAN: <u>A. Bakedano,</u> <u>R. González-Martínez,</u> <u>A. Niklas, M. Garat,</u> <u>A.I. Fernández-Calvo</u> ASCAMM (Eurecat)*): <u>M. da Silva</u>	International 1.200 people Scientific & Foundry sector companies
Increasing the weldability of die parts by minimal lubrication (Oral presentation & paper on CD proceedings)		TU-BS: <u>Ch. Garthoff, H. Pries,</u> <u>K. Dilger</u> Chem-Trend: <u>D. Tomazic</u>	


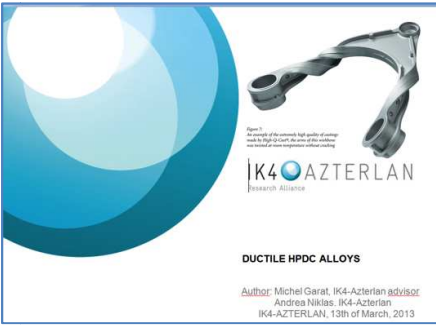




Title of the article	Name Date of the event	Organization: Name of authors (attendance people)	Size and type of audience
<p>Efecto de la composición en la microestructura de piezas inyectadas con aleaciones de aluminio de primera y segunda fusión (Poster & abstract on conference proceedings)</p>	<p>XIII Congreso Nacional de Materiales, 18-20 June 2014, Barcelona (Spain)</p>	<p>ASCAMM (Eurecat)^(*): E. Nogués, M. da Silva IK4-AZTERLAN: A. Bakedano, R. González-Martínez, A. Niklas, A.I. Fernández-Calvo</p>	<p>National 276 people Scientific & technical materials sector.</p>
	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;">  </div> <div style="width: 48%;">  </div> </div>		
<p>Possibilities of improving weld seam quality in laser welding of aluminum die cast <i>Paper 404, ISBN: 9781940168029 (Oral presentation & paper on CD proceedings)</i></p>	<p>ICALEO® conference 2014: International Congress on Applications of Lasers & Electro-Optics 19-23 October 2014 Sheraton San Diego, Californien (USA)</p>	<p>TU-BS: C. Börner, C. Garthoff, H. Pries, K. Dilger</p>	<p>International 500 people Scientific & laser sector companies (http://www.industrial-lasers.com/articles/2014/10/icaleo-2014-show-wrap-up.html)</p>
<p>Heat Treatment optimisation of Secondary AlSi10MnMg(Fe) test parts fabricated by vacuum assisted high pressure die casting technology (Oral presentation & paper on CD proceedings)</p>	<p>European Conference on heat Treatment 2015 & 22nd IFHTSE Congress 20-22 May 2015 Venize (Italy)</p>	<p>IK4-AZTERLAN: A.I. Fernández-Calvo, A. Bakedano, E. Barbarias, F. Santos. A. Niklas</p>	<p>International 260 people Scientific & experts involved in the heat treatment and surface engineering route (http://www.ifhtse.org/images/Bulletins/2015_02.pdf)</p>

Title of the article	Name Date of the event	Organization: Name of authors (attendance people)	Size and type of audience
Effect of microstructure and casting defects on the mechanical properties of secondary AlSi10MnMg(Fe) test parts manufactured by vacuum assisted high pressure die casting technology (Oral presentation & paper on Material Today's Journal)	Presented at: Aluminium Two Thousand World Congress and International Conference on Extrusion and Benchmark 12-16 May 2015 Florence (Italy)	IK4-AZTERLAN: A. Niklas, A. Bakedano, S. Orden, <u>A.I. Fernández-Calvo</u> ASCAMM (Eurecat)*: M. da Silva, E. Nogués,	International 500 people Scientific & Aluminium technologies (http://www.firenzefiera.it/it/congresso/9th-world-congress-aluminium-two-thousand/7600)
	Materials today proceedings Elsevier (In press)		

(*) ASCAMM, actually EURECAT

3.3.2 Conferences, seminars and workshops

Event	Date and Place	Countries addressed	Size of audience	People attending
Technical conference: “Competitive keys in aluminium industry” Presentation of “Ductile HPDC alloy”	13/11/2012 Tabira Institute, Durango (Spain)	National with some international speakers from France, Sweden and Spain	90 delegates from HPDC aluminium foundries and supply chain	M. Garat, A. Niklas, A. Fernández, A. Bakedano, IK4-AZTERLAN
	Due to high demand it was repeated 13/03/2013 Tabira Institute, Durango (Spain)		82 delegates from HPDC aluminium foundries and supply chain	
<div><div><div><h3>Jornada Técnica</h3><p>Jardunaldi Teknikoa</p><p>“Claves de competitividad en la industria del aluminio”</p><p>“Aluminioaren injekzio prozesuko berrikuntza gakoak”</p><p>Durango, 13 de Marzo de 2013</p><div><div></div><div></div><div></div></div></div></div><div><div><h4>“Claves de competitividad en la industria del aluminio”</h4><p>Presentación / Aurtkezpena</p><p>Los constantes retos a los que tienen que hacer frente las fundiciones de aluminio requieren de estrategias que permitan alcanzar posiciones de mayor competitividad.</p><p>Esta propuesta de trabajo se centra en algunas claves de la tecnología de inyección de aluminio, en la que el molde y sus características juegan un papel determinante.</p><p>La jornada cuenta con la colaboración de reconocidos especialistas de las empresas UDDEHOLM, CERLIKON, BALZERS y GFC, que junto con técnicos del Centro Metalúrgico IK4-AZTERLAN, permiten identificar oportunidades de mayor competitividad para las empresas dedicadas al proceso de inyección de componentes no-fierros.</p><p>Objetivos / Helburuak:</p><ul style="list-style-type: none">- Dar a conocer las características metalúrgicas de las aleaciones de Al empleadas en alta presión.- Analizar los principales mecanismos de fallo de los moldes de inyección.- Introducir los nuevos desarrollos en recubrimientos para la protección de moldes.- Presentar criterios de selección de acero para la optimización de la vida de los moldes de inyección.<p>Agenda / Gai-zerrenda</p><p>10:00h Presentación de la jornada. Sr. Xabier González – I. F. TABIRA Sr. Enaitz Barbarán – UDDEHOLM</p><p>10:15h Análisis de defectos en componentes de inyección de aluminio. Causas y soluciones. Se detallan y analizan los principales defectos en inyección de Al: origen y soluciones innovadoras. Sr. Asier Balsegoda y Sara Arza Fernández Ingenieros, I+D+i y Procesos Metalúrgicos IK4-AZTERLAN</p><p>10:30h Para café</p><p>11:30h Principales mecanismos de fallo en los moldes de inyección. Se revisan los principales problemas en servicio de los moldes de inyección y algunos de las claves de proceso a tener en consideración. Mr. Jøker Andersen (Suecia) Business Development / Hot Work Die Steels UDDEHOLM AB</p><p>11:45h Recubrimientos avanzados para aplicaciones en moldes de inyección de aluminio. Se dan a conocer los últimos desarrollos en recubrimientos para la protección de moldes de inyección. Sr. Juan Carlos Gargallo-Benito Director de ventas CERLIKON BALZERS</p><p>13:00h Lunch</p><p>14:00h Criterios de selección de los aceros para la optimización de la vida de los moldes de inyección. Se presentan las principales características de los aceros y los criterios de selección para la optimización de la vida del molde en los procesos de inyección de aluminio. Mr. Bengt Klauwetter (Suecia) Product Manager of Hot Work Applications UDDEHOLM AB</p><p>14:45h Aleaciones de aluminio de gran elongación. Se introducen calidades avanzadas de aluminio invertido de alta ductilidad, con aplicaciones crecientes en la industria del automóvil. Desarrollos asociados al proyecto europeo SPURCAST11536 para la fabricación de piezas ductiles y soldables a bajo coste. Mr. Michael Gierst (Francia) Foundry Consulting Engineer GFC (Former R&D Director ECHEZENYAND Foundry Project Manager at RIO TINTO ALCAN) Sra. Andrea Nilles Ingeniera, I+D+i y Procesos Metalúrgicos IK4-AZTERLAN</p><p>15:30h Conclusiones y clausura</p><div><div></div><div></div><div></div></div></div></div></div>				

				
				
3rd International Technical Forum on the high pressure die casting technology “Key innovation factors in High Pressure Die Casting for Structural Components”	To be held on 26 th November 2015 AIC, Boroa (Spain)	National with some international speakers from Switzerland, Poland, Germany and Spain	130 delegates from HPDC aluminium foundries and supply chain are expected	A. Bakedano, E. Barbarias, M. Garat, A. Niklas, A. Fernández, F. Santos, R. Suárez IK4-AZTERLAN
				
				

3.4 Training activities

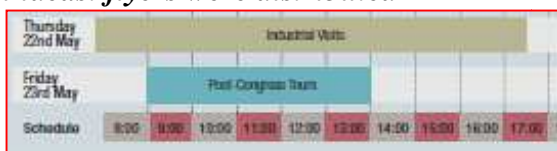
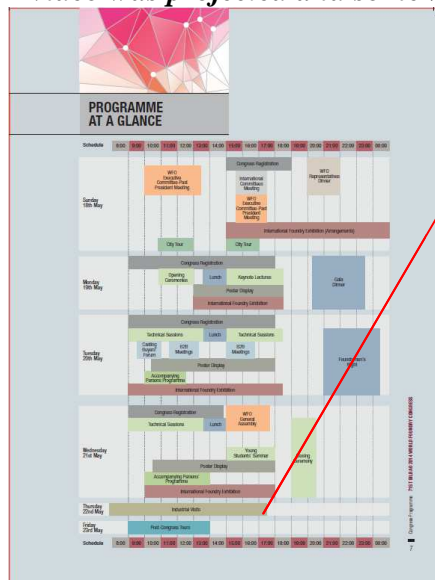
Event Title of presentation	Date Place	Size and type of audience	Speakers
Young Students´ Seminar at 71 st World Foundry Congress “Manufacturing of structural parts by HPDC Technology	21 th of May 2015 Bilbao (Spain)	150 students and technicians from international Universities, research centres, foundries and supply chain industries	A. Fernández, IK4-AZTERLAN
 			
Open-house at EURECAT	19 th of November 2015 Cerdanyola del Vallés (Barcelona)	20 technicians from HPDC foundries and supply chain industries are expected.	All partners
			
Open-house will be held at TU-BS “Welding of high ductile secondary aluminum alloys using conventional and advanced welding techniques”	1 st December 2015	10-15 people -Technical directors/ staff responsible for research and development projects -Staff, responsible for welding	H. Pries, F. Teichmann, M. Gillner, K. Noack

3.5 Other Dissemination Activities

Name & Comment (Link if appropriate)

As part of the activities of the 71st World Foundry Congress and International Exhibition hold between 18-23 May 2014, **IK4-AZTERLAN** were visited by **20 scientific and foundry technicians inside the Industrial Visit section of 71st WFC on 22nd May.**

A video was projected and some Soundcast flyers were distributed



Blog release at IK4-AZTERLAN web page (<http://azterlan.blogspot.com.es/2015/06/need-for-high-integrity-light-weight-25.html>): “Need for high integrity light weight structural castings”.

jueves, 25 de junio de 2015

Need for high integrity light weight structural castings

Global warming and resource shortage have lead to an urgent demand for reducing the weight of passenger's vehicles. Since the first introduction of structural Aluminium cast components in the AUDI A8 back in 1994, additional structural parts have been successfully manufactured by vacuum assisted High Pressure Die Casting (HPDC) technology.

However, it is still an expensive solution as this process technology requires evacuating the air in the entire die cavity and shot system and therefore it is only affordable for upper class cars. Hence, there is a clear need to develop a cheaper vacuum systems in order to make it available to a wider customer base (lower and medium class passenger vehicles).

To face this challenge, IK4-Azterlan is making important investigation efforts on two of the most promising working lines. On one hand, the substitution of high vacuum processes in HPDC by more competitive processes using low cost, portable vacuum systems which allow to reach an intermediate vacuum level. On the other hand new developments are being applied in the optimization of the Low Pressure Permanent Mold Casting (LPPM) process, also aided by vacuum, in order to overcome the actual thickness limits of this process.

In both technologies, the key is not just to apply vacuum, but it comes to a complex and adequate combination of different technologies, metallurgical knowledge and quality controls.

Soundcast technology success factors (www.soundcastproject.eu)

METALLURGY RESEARCH CENTRE

Archivo del blog

- 2015 (14)
 - octubre (1)
 - septiembre (1)
 - julio (2)
 - junio (2)
 - [Need for high integrity light weight structural castings](#)
 - [Nuevas exigencias del sector de automoción de peso...](#)
 - abril (2)
 - marzo (2)
 - febrero (4)
- 2014 (14)
- 2013 (17)
- 2012 (10)
- 2011 (6)
- 2010 (10)

Seguidores

Participar en este sitio

Miembros (14)

Enlaces destacados

[AZTERLAN](#)

In IK4-AZTERLAN we trust in the democratization of vacuum assisted HPDC technology, therefore we are directly involved in its development coordinating the Soundcast project FP7-SME-315506. The main objectives of this European project are:

- To provide a more competitive technology by using VDS vacuum equipments easy to fit to medium or high range HPDC machines.
- The use of secondary alloys, cheaper and with a lower die soldering tendency compared to the conventional primary AlSi10MnMg alloy.
- The use of latest generation of lubricants and adequate lubrication practices for subsequent heat treatment and welding operations.
- Application of an intelligent control to the whole manufacturing process.

The latest advances of the Soundcast project were recently presented on the 13th edition of the International Foundry Trade GIFA in Düsseldorf, at the Aluminium 2000 Congress in Florence and in the IPHTSE 2015 in Venice.

The new recycled AlSi10MnMg alloy with high iron content (0.6 wt. % Fe) has high mechanical properties comparable to the corresponding primary alloy. Furthermore, an efficient new laser welding process applicable to these structural components manufactured by low cost technology has been developed in the frame of the project. The advantages of the Soundcast technology will be fully exploited in the final demonstration of the project which will be performed on two real HPDC parts by the end of the present year.

3.6 Scheduled dissemination actions after the Project.

The dissemination actions of the Soundcast project will continue after the project, For example, the following list of dissemination actions are already scheduled after finishing the Soundcast project.

Link or reference Date Location	Partner Exhibitor stand / Attendance
Next 11 th Euroguss Int. Trade Fair for Die Casting 12-14 January 2015, Nuremberg (Germany)	VDS exhibitor stand: <i>Final Soundcast project results will be disseminated at this important Fair for HPDC sector.</i>
	Schmale & Schulte exhibitor stand: <i>Final Soundcast project results will be disseminated at this important Fair for HPDC sector.</i>
	Chem-Trend exhibitor stand: <i>Final Soundcast project results will be disseminated at this important Fair for HPDC sector.</i>

Title of the article	Name Date of the event	Organization: Name of authors (attendance people)
A new secondary AlSi10MnMg(Fe) alloy for manufacture ductile aluminium parts by vacuum assisted high pressure die casting technology	Abstract sent for oral presentation at High Tech Die Casting 2016 22-23 June, Venice (Italy)	RUFFINI: E. Rosset IK4-AZTERLAN: A.I. Fernández-Calvo, A. Bakedano, S. Orden, A. Niklas, EURECAT E. Nogués, M. da Silva
Laser Beam Welding of Highly Ductile Secondary HPDC Aluminium Alloy at Reduced Ambient Pressure	Abstract sent for oral presentation at High Tech Die Casting 2016 22-23 June, Venice (Italy)	Schmale and Schulte: S. Greis TU-BS: K. Dilger; H. Pries; S. Müller; F. Teichmann
Microstructure and mechanical properties of a new secondary AlSi10MnMg(Fe) alloy for ductile high pressure die casting parts for the automotive industry	Accepted for oral presentation at: INALCO 2016 13 th International Aluminium Conference – INALCO 2016 21-23 September, 2016 Napoli (Italy)	IK4-AZTERLAN: A. Niklas, A. Bakedano, S. Orden, A.I. Fernández-Calvo EURECAT: E. Nogués, M. da Silva
Effect of vacuum application and heat treatment on porosity formation in a step high pressure die casting part	In preparation and to be published in a scientific journal	IK4-AZTERLAN: A. Niklas, A. Bakedano, S. Orden, I. Lizarralde, A.I. Fernández-Calvo EURECAT: M. da Silva, E. Nogués

4. SOUNDCAST Dissemination Tool and Materials produced

In order to disseminate the SOUNDCAST project results and relevant information more effectively and efficiently, the project consortium has elaborated and published the following dissemination materials:

- SOUNDCAST Brochures or Flyers
- SOUNDCAST Posters

The following sections describes and illustrates the stated dissemination materials.

4.1 SOUNDCAST Brochures and Flyers

Most of the brochures and flyers were in English, with the exception of Chem-Trend flyer used at Euroguss 2014 and Metef 2015 which is also in German. However, in case any project member needs a version of these documents in a different language, it could be provided that the respective member carries out the translation of the text into their own language.

The focus of the SOUNDCAST Brochure is to introduce the basic info of the SOUNDCAST project. Its purpose is, not only to share the project information, but to attract and intrigue interest of the target public. The following two figures illustrate the outer and the inner side the brochures are comprised of.

The outer side of the brochure contains general project information: the project name and acronym, the Call under which the project is financed, the web site and contact details of the project coordinator. Also, there is information about the project partners as well as illustrations of logos (EU, FP7 and SOUNDCAST).


The inner side of the brochure contains more detailed information about the project, such as: the objective of SOUNDCAST and some interesting results. The flyer has been updated to include new reuts and also changes in the consortium. The SOUNDCAST brochure has been disseminated at the events the project partners participated, as it is indicated in each version.

Partners

The SOUNDCAST project comprises 7 partners from 4 European countries:

- 3 SMEs
- 1 large enterprise
- 3 RTDs

SOUNDCAST CONSORTIUM			
SME	ALIASA HPDC Foundry • Fabrication of a weldable demonstrator. • Automotive/motorbike sector Aliasa España S.L. SPAIN	VDS Vacuum System Manufacturer • Technical advice in Vacuum technologies. VDS Super 8000-220-00-00 NETHERLANDS	DIACE HPDC Foundry • Fabrication of a high mechanical properties demonstrator. • Aeronautic sector. Mathieu Herb 0033-04-77-11-11-11 FRANCE
	Additional Industrial Partner		
RTD	IK4-AZTERLAN Metallurgy • New alloy development. • Metallurgical control tool. • Heat treatment. Numerical Simulations • Die design. IK4-AZTERLAN 48940 Leizor (Spain) SPAIN	ASCAMM HPDC Process • VPDC laboratory tests. • Die specialist. • VPDC process parameter optimization. • PCA statistical analysis. AS BITTI 0035-01-42-00-00-00 SPAIN	TU-BS (IfU) HPDC Process • Lubrication optimization. • VPDC laboratory tests. Welding Process • Laser welding technique. • Electron beam welding. Heide Preis 0049-03-31-00-00-00 GERMANY



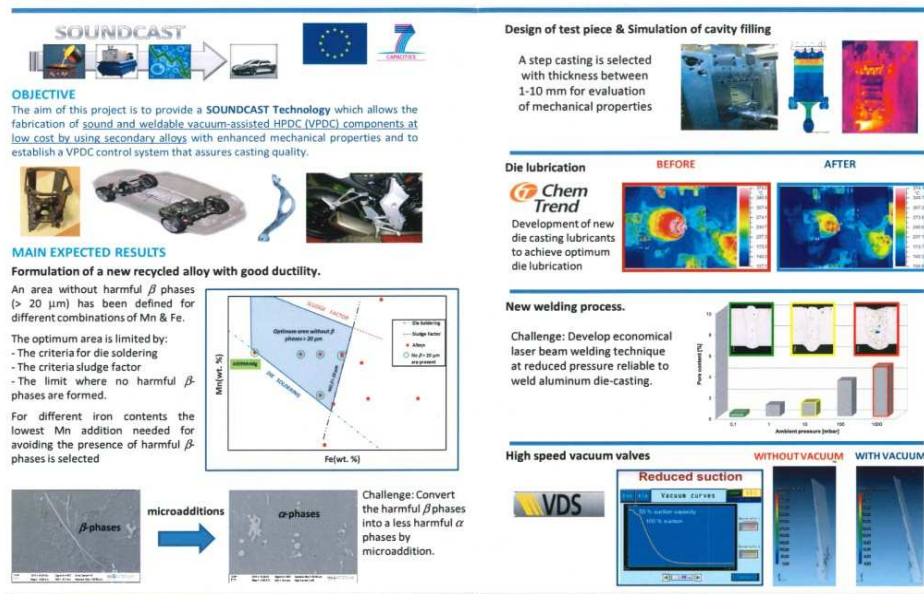
SOUNDCAST

VACUUM-ASSISTED HIGH PRESSURE DIE CASTINGS WITH REDUCED POROSITY AT LOW COST



<http://www.soundcastproject.eu/>

"The research leading to these results has received funding from the European Union's Seventh Framework Programme managed by REA-Research Executive Agency <http://ec.europa.eu/research/rea> (FP7/2007/2013) under grant agreement N°315506.



Flyer at VDS stand at Euroguss 2014

Soundcast




The research leading to these results has received funding from the European Union's Seventh Framework Programme managed by REA - Research Executive Agency - ec.europa.eu/research/rea (FP/2007-2013) under Grant Agreement number 315506

Innovative und umweltfreundliche Technologie zur Herstellung von qualitativ hochwertigen und schweißbaren Druckgussteilen.

Für mehr Informationen:
www.soundcastproject.eu

Innovative and Eco-Friendly Technology to Produce Sound and Weldable High Performance Castings.

For more information:
www.soundcastproject.eu

SME





RTD





Lubricants and Release Agents



Flyer at Chem-Trend Stand at Euroguss Fair 2014

SOUNDCAST



VACUUM-ASSISTED HIGH PRESSURE DIE CASTINGS WITH REDUCED POROSITY AT LOW COST

OBJECTIVE
The aim of this project is to provide a **SOUNDCAST technology** which allows the fabrication of sound and weldable vacuum-assisted HPDC (VPDC) components at low cost by using secondary alloys with enhanced mechanical properties and to establish a VPDC control system that assures casting quality.



CONSORTIUM:

MAIN EXPECTED RESULTS

- Design of test piece & Simulation of cavity filling.
- Formulation of a new recycled alloy with good ductility.
Challenge: Convert the harmful β phases into α phase by microaddition.
- Die lubrication.
Chem Trend
- New welding process.
Challenge: Develop economical laser beam welding technique at reduced pressure reliable to weld aluminum die-cast.
- High speed vacuum valves
VDS




CONSORTIUM:

SME



VDS
Vacuum System and valves Manufacturer

Diace
HPDC Foundry: high ductility demonstrator

RTD

IK4 AZTERLAN
Metallurgy: New Alloys, Die Design, Heat treatment

ascamm
Technology: Vacuum HPDC Process Mechanical Properties

Chem Trend
Lubricant supplier

ADDITIONAL INDUSTRIAL PARTNER

Chem Trend
Lubricant supplier

7th Framework Programme for Research and Development
The research leading to these results has received funding from the European Union's Seventh Framework Programme managed by REA - Research Executive Agency - ec.europa.eu/research/rea (FP7/2007-2013) under Grant Agreement number 315506

Flyer at Ascamm Stand at Euroguss 2014

Partners

The SOUNDCAST project comprises 7 partners from 4 European countries:

- 3 SMEs
- 1 large enterprise
- 3 RTDs




SOUNDCAST

**VACUUM-ASSISTED HIGH PRESSURE
DIE CASTINGS WITH REDUCED
POROSITY AT LOW COST**




"The research leading to these results has received funding from the European Union's Seventh Framework Programme managed by REA-Research Executive Agency <http://ec.europa.eu/research/rea> (FP7/2007/2013) under grant agreement N°315506.

<http://www.soundcastproject.eu/>



OBJECTIVE

The aim of this project is to provide a SOUNDCAST Technology which allows the fabrication of sound and weldable vacuum-assisted HPDC (VPDC) components at low cost by using secondary alloys with enhanced mechanical properties and to establish a VPDC control system that assures casting quality.



MAIN EXPECTED RESULTS

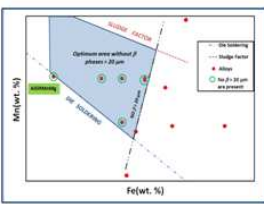
Formulation of a new recycled alloy with good ductility.

An area without harmful β phases ($> 20 \mu m$) has been defined for different combinations of Mn & Fe.


The optimum area is limited by:

- The criteria for die soldering
- The criteria sludge factor
- The limit where no harmful β phases are formed.

For different iron contents the lowest Mn addition needed for avoiding the presence of harmful β phases is selected

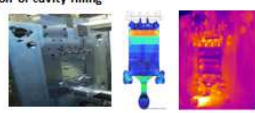


Challenge: Convert the harmful β phases into a less harmful α phases by microaddition.




Design of test piece & Simulation of cavity filling

A step casting is selected with thickness between 1-10 mm for evaluation of mechanical properties

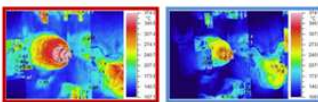


Die lubrication

BEFORE AFTER

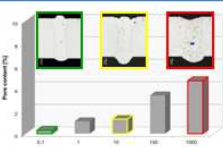


Development of new die casting lubricants to achieve optimum die lubrication




New welding process.

Challenge: Develop economical laser beam welding technique at reduced pressure reliable to weld aluminum die-casting.




High speed vacuum valves

WITHOUT VACUUM WITH VACUUM



Reduced suction



Flyer at IK4-AZTERLAN Stand at 71st WFC Congress and Exhibition at Bilbao (Spain)

Soundcast Consortium (last phase of the project)
Successful factors for vacuum-assisted HPDC
It is not just to apply vacuum: it is a combination of technologies, know-hows and quality checks.

IK4-AZTERLAN

- Numerical Simulation
- Gating Design
- Vacuum gating
- Full Die design

IK4-AZTERLAN

- Fluxing
- Degassing
- Si modification
- Sludge Factor
- Dross

Chem Trend

- Chemistry
- Properties
- Repeatability
- Automatic application

VDS

Repeatability is the key

- Monitor of shot key variables
- Real time shot control system
- Die cavity sensors
- Monitor of vacuum level
- Detecting leak and blockages


RUFFINI, S.A.

High mechanical properties casting

SCHMALE & SCHULTE



Laser weldable casting

SOUNDCAST



SOUNDCAST

VACUUM-ASSISTED HIGH PRESSURE DIE CASTINGS WITH REDUCED POROSITY AT LOW COST


<http://www.soundcastproject.eu/>
 (afernandez@azterlan.es)

"The research leading to these results has received funding from the European Union's Seventh Framework Programme managed by REA-Research Executive Agency <http://ec.europa.eu/research/rea> (FP7/2007/2013) under grant agreement N°315506.

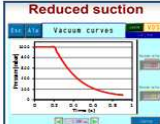
OBJECTIVE

The aim of this project is to provide a SOUNDCAST Technology which allows the manufacturing of sound and weldable vacuum-assisted HPDC (VPDC) components at low cost by using secondary alloys with enhanced mechanical properties and to establish a VPDC control system that assures casting quality.

High speed vacuum valves


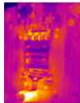


Reduced suction




Design of test piece & Simulation of cavity filling

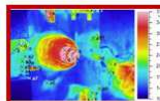
A step casting is selected with thickness between 1-10 mm for evaluation of mechanical properties

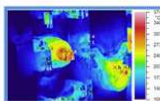
Die lubrication



BEFORE



AFTER

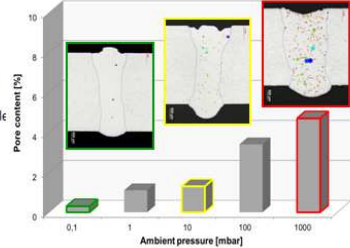


Development of new die casting lubricants to achieve optimum die lubrication

MAIN EXPECTED RESULTS


New welding process.

Challenge: Develop economical laser beam welding technique at reduced pressure reliable to weld aluminum die-casting.



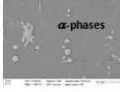
Formulation of a new recycled alloy with high ductility (0.6 % Fe)

The aim is to substitute the AlSi10MnMg primary alloys with high Mn content by less expensive secondary alloys with high Fe content and moderate Mn content and to reduce die solder due to the higher Fe content.

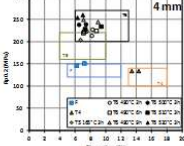


Microadditions of Mn

→



Challenge: Convert the harmful β phases into a less harmful α phases by microaddition.



Challenge: Achieve high mechanical properties with a secondary alloy (> 0.6 % Fe). High mechanical properties within the range of ductile primary AlSi10MnMg alloy.

Flyer at VDS, IK4-AZTERLAN, Chem-Trend and Ascamm Stands in GIFA Fair 2015

4.2 SOUNDCAST Posters

Several posters have been also issued during the project course. The poster were used for the events the project partners participated in. The main focus of the poster is to present the project vision and the solution that SOUNDCAST implies, and to highlight the project consortium, EU and FP7 coverage. Following is the illustration of some of these posters.



SOUNDCAST

VACUUM-ASSISTED HIGH PRESSURE DIE CASTINGS WITH REDUCED POROSITY AT LOW COST

OBJECTIVE

The aim of this project is to provide a SOUNDCAST technology which allows the fabrication of sound and weldable vacuum-assisted HPDC (VPDC) components at low cost by using secondary alloys with enhanced mechanical properties and to establish a VPDC control system that assures casting quality.

MAIN EXPECTED RESULTS

- Design of test piece & Simulation of cavity filling.
- Formulation of a new recycled alloy with good ductility.
Challenge: Convert the harmful β phases into α phase by microaddition.
- Die lubrication.
- New welding process.
Challenge: Develop economical laser beam welding technique at reduced pressure reliable to weld aluminum die-cast.
- High speed vacuum valves VDS.

CONSORTIUM:

- SME**
ALIASA: HPDC Technology, Weldable die-casting
VDS: Vacuum System and valve Manufacturer
Diace: HPDC Technology, High ductility die-casting
- RTD**
IK4-AZTERLAN: Modeling, New Alloys, Die Design, Heat Treatment
ascamm: Laser Technology, HPDC Process, Mechanical Properties
Tecnología de Soldadura: HPDC Laser Welding, HPDC Laser Welding
Chem Trend: Lubricant supplier

Poster at Ascamm Stand at Euroguss 2014



Basic research

- Modeling of Solidification Processes and Phenomena.
- Matrix reinforcement of castings with nanoparticles.
- Engineering Cooling Technology: Materials with enhanced mechanical properties.
- Ductile iron with Austenitic matrix fulfills the AD Standards with no need of heat treatment.

Ongoing projects

HardALU

HardALU Project (No. 674539, H2020-SMEINST-2-2014)
"Fluidised Bed Heat Treatment Furnace for HPDC engine blocks and other transport components offering new opportunities for lightweight, cost competitiveness and energy saving"

Fully optimized fluidised bed heat treatment line adapted to your product

Solution Quench Ageing

Soundcast

SOUNDCAST PROJECT (No. 315506, FP7-SME-2012-1)
"Vacuum-assisted high pressure die castings with reduced porosity AT LOW COST"

High mechanical properties High weldability

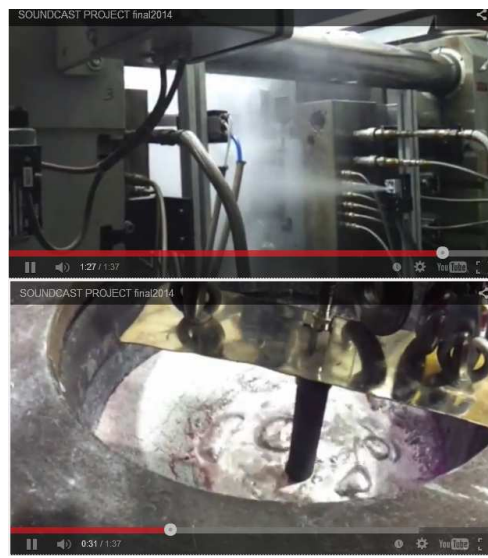
Full validation of new secondary alloy for ductile castings and new laser welding process at reduced pressure

Poster at IK4-Azterlan Stand at GIFA 2015

4.3 SOUNDCAST Videos

Several videos were used for dissemination during the project.

- **Soundcast melt treatment and procedures for achieve high mechanical properties are described in a video** released in Youtube and Soundcast Website. The full Soundcast process is described, including melt treatment and all the steps of vacuum assisted HPDC process. In the video it is mentioned that the research leading to these results have received funding from the European Union's Seventh Framework Programme. https://www.youtube.com/watch?v=A1L_60Xrfls



- A **video showing the main project results** was presented at IK4-AZTERLAN stand at International Exhibition at 71st World Foundry Congress.



- **Laser beam welding of a high ductile secondary HPDC aluminum alloy at reduced ambient pressure** is showed in a video uploaded at Youtube and Soundcast Website. The video depicts the welding process with a solid state laser. Two high pressure die casting parts, made of a high ductile secondary HPDC aluminum alloy, are welded together here. In a first approach, the welding process is established at ambient pressure. In a second approach, a reduced ambient pressure is enabled for the welding process. The results clearly point out that hereby, a narrow and porosity reduced weld can be achieved.

5. Assessment of dissemination impact

During the SOUNDCAST project course the following results have been achieved in the context of dissemination actions:

- **20 publications** – 8 scientific publications were published, in scientific journals and conference proceedings. The impact achieved is the interest of other scientific institutions. 12 industrial publications were published – seminar, technical conference papers and announcements, articles in newspapers, on the web, etc.
- **10 stands at international Fairs** disseminated the Soundcast project results.
- **8 versions of printed dissemination materials** (brochures, flyers, posters) have been prepared and distributed in the events attended or organised by the Soundcast partners.
- **3 video materials** were published.
- **3 specific training activities** have been planned.
- **SOUNDCAST Web Site** – regularly updated
- **A minimum of 6 after project dissemination actions** are already planned.



The SOUNDCAST project implementation lasted 37 months during which the project consortium has invested efforts on both, the development of the results and promoting it among the target groups. Therefore, the dissemination activities were intensive, comprehensive, responsibility of all partners, and of huge importance – effective since the target groups have expressed interest in project results and potential opportunities for further cooperation and exploitation of the solution have appeared.

Therefore, the consortium believes communication and dissemination activities conducted during the project course have been successful. The consortium will continue the cooperation after the project end on further testing, evaluation and exploitation of the project results, in particular the participating SMEs which are the owners of the main results.


The consortium will continue working on SOUNDCAST technology solution for the commercialization of the main results– registration of the software, IPR management and intensive marketing.

ANNEX I - Templates of documents

a) ppt Presentations





"Vacuum-assisted high pressure die casting with reduced porosity at low cost"



IK4 AZTERLAN
Research Alliance

Aluminium-, Zink-Druckguss | Kokillenguss
SCHMALE & SCHULTE



Chem Trend

 **RUFFINI, S.A.**





Technische Universität Braunschweig

Ascam
eurecat
Centre Tecnològic de Catalunya

MEETING Place

XX Month 201X









Presentation title

Speaker, Organization

24 May 2013
Title presentation

b) Deliverables








SOUNDCAST
VACUUM-ASSISTED HIGH PRESSURE DIE CASTINGS WITH REDUCED POROSITY AT LOW COST

DX.X: Deliverable template

Instrument	Collaborative Project	Research for the benefit of SME
Grant Agreement No.	315506	Call identifier
Start date of project	1/11/2012	Duration
Prepared by	xxxxx/xxxxx	Company
Review	xx/xx	Date of preparation

*All information contained in this document remains the sole and exclusive property of SOUNDCAST Consortium and shall not be disclosed nor any intellectual property rights transferred without the prior written consent of the Consortium.


LX.X: Deliverable template


DISSEMINATION LEVEL



Dissemination Level (choose the suitable option)	
	PU Public
	PP Restricted to other programme participants (including the Commission Services)
	RE Restricted to a group specified by the consortium (including the Commission Services)
	CD Confidential, only for members of the consortium (including the Commission Services)



DOCUMENT MODIFICATIONS CONTROL

Review	Date	Modifications	Author/Organisation
1.0	xxxx/xx/xx	xxx	xxxxxx/xxxxxx
2.0	xxxxxx/xx/xx	xxxx	xxxxxx/xxxxxx

xxxxxx/201x
Review xx.0
Project No: 315506
Page 2 of 5

c) Internal Report: Progress Reports

SOUNDCAST
VACUUM-ASSISTED HIGH PRESSURE DIE
CASTINGS WITH REDUCED POROSITY AT LOW
COST

Insert here the title of the document

Instrument	Collaborative Project – Research for the benefit of SME		
Grant Agreement No.	315506	Call identifier	FP7-SME-2012-1
Start date of project	1/11/2012	Duration	24 months
Prepared by	XXXX XXXXX	Company	XXXXX
Review	X.0	Date of preparation	xx/xx/201x


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xx/xx/201x



Review x.0

Project No: 315506

Page 2 of 5



Title of the document




DISSEMINATION LEVEL

Dissemination Level (choose the suitable option)	
PU	Public
PP	Restricted to other programme participants (including the Commission Services)
RE	Restricted to a group specified by the consortium (including the Commission Services)
CO	Confidential, only for members of the consortium (including the Commission Services)

DOCUMENT MODIFICATIONS CONTROL

Review	Date	Modifications	Author/Organisation
1.0	xx/xx/xx	xxx	X. XXXXX / XXXXX
2.0	xx/xx/xx	xxx	X. XXXXX / XXXXX

d) Meeting Agenda

Soundcast Project
Project number: 315506
6 Month Meeting

Date: 23rd May 2013

Place: Technische Universität Braunschweig
Address: Langer Kamp 8, 38106 Braunschweig
Participants: All Consortium members of the project.

Agenda

9:00 Welcome and Introduction.

Project Management and Administrative Issues

9:15 WP1: Management, Administrative and Financial status. **Mr. S.Traat-**
ASCAMM

Technical discussion about WPs
 WP presentation (by WP Leaders)+ discussion+ next steps.

10:00 Scientific status: Summary at M6. **Mr. F.Santos- IK4-AZTERLAN**

10:15 WP2: System modelling and porosity reduction **Mr. M.da Silva-**
ASCAMM

10:45 WP3: Mechanical Property Improvement. **Mr. F.Santos- IK4-AZTERLAN**

11:30 Coffee break

12:00 WP3: Mechanical Property Improvement. **Mr. F.Santos- IK4-AZTERLAN**

12:45 WP4: Welding process optimization **Mr. T. Krüssel- TU-BS**

13:30 Lunch break

15:00 WP6: Dissemination and exploitation of project results. **Mr. C. Bagnoud-**
VDS

15:45 Open Discussion, Wrap-up and ToDo's.

17:00 End of meeting

SOUNDCAST - BM3/Merissa, Agenda 23 May 2013

- 1 -

10/07/2013

e) Attendance Register

SOUNDCAST Project
Project number: 315506
RM Meeting 22nd May 2015

ORGANIZATION	NAME AND SURNAME	SIGNATURE
XXX	XXX XXX	Signature
XXX	XXX XXX	Signature
XXX	XXX XXX	Signature

SOUNDCAST_RM Meeting Agenda 23_May_2015 1 10/07/2015

f) Meeting Minutes

Vacuum-assisted high pressure die castings with reduced porosity at low cost

-SOUNDCAST-

Conference Minutes, XX month Review Meeting in Place

Prepared by: **Ana Fernández, IK4-AZTERLAN**

Network document classification code:

Distribution: **Participants**

Supplementary notes:
This document is only for use among the Partners of GA-315506

REV.	DATE	DESCRIPTION	AUTHOR/ORGANISATION
X.0	XX/XX/XX	XXX	XXXX/XXXX

GA-315506 Commercial in Confidence

Vacuum-assisted high pressure die castings with reduced porosity at low cost

-SOUNDCAST-

1. VENUE




The XX month Review Meeting of the SOUNDCAST project was held at **Venue (Country)** on **XX month year**.

2. ATTENDANCE

1	(Organization): People names
2	(Organization): People names
3	(Organization): People names
4	(Organization): People names
5	(Organization): People names
6	(Organization): People names
7	(Organization): People names

GA-315506 Commercial in Confidence

g) Contractual Reports: Periodic Reports

		
PROJECT PERIODIC REPORT		
<p>Grant Agreement number: 315506</p> <p>Project acronym: SOUNDCAST</p> <p>Project title: "Vacuum-assisted high pressure die castings with reduced porosity at low cost"</p>		
<p>Funding Scheme: Research for the benefit of SME (FP7-SME-2012-1)</p> <p>Date of latest version of Annex I against which the assessment will be made:</p>		
<p>Periodic report: <input checked="" type="checkbox"/> 1st <input type="checkbox"/> 2nd <input type="checkbox"/> 3rd <input type="checkbox"/> 4th</p>		
<p>Period covered: from 1/11/2012 to 30-06-2014</p>		
<p>Name, title and organisation of the scientific representative of the project's coordinator¹:</p>		
<p>Tel: XXXXX</p>		
<p>Fax: XXXX</p>		
<p>E-mail: XXXXX</p>		
<p>Project website² address: http://www.soundcastproject.eu/</p>		
<p><small>¹ Usually the contact person of the coordinator as specified in Art. 8.1. of the Grant Agreement. ² The home page of the website should contain the generic European flag and the FP7 logo which are available in electronic format at the Europe website (logo of the European flag: http://ec.europa.eu/europa/logo/logo_en.htm logo of the 7th FP: http://ec.europa.eu/research/fp7/logo_en/logo_en.htm). The area of activity of the project should also be mentioned. ³ All information contained in this document remains the sole and exclusive property of SOUNDCAST Consortium and shall not be disclosed by this report to third persons without the prior written consent of SOUNDCAST.</small></p>		

