

ECSEL-JU GA number: 737417 / Call 2016

R3-PowerUP

“300mm Pilot Line for Smart Power and Power Discretes”

Deliverable Report for D 6.1.0

“Project Kick-Off meeting”

Due Date: M1

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Nature:	"R = Report", "P = Prototype", "D = Demonstrator", "O = Other"		
Dissemination Level:	PU	Public	X
	PP	Restricted to other programme participants (including the JU)	
	RE	Restricted to a group specified by the consortium (including the JU)	
	CO	Confidential, only for members of the consortium (including the JU)	

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Publishable summary

The R3-PowerUP kick-off meeting took place in Agrate Brianza, Italy, on November 7th and 8th, 2017. The official start-date was on November 1st 2017.

The general project coordinator (GPC), Roberto ZAFALON (STMicroelectronics, Italy) led the two days work with the 73 attendees, representing 35 beneficiaries coming from 14 member states. More than 90MB of technical data and material has been thoroughly presented and shared among the whole consortia. All partners contributed to get insight the project and to networking among the technical teams.

All the technology work packages' Leaders took advantage of this opportunity to settle their first technical face-to-face meetings.

In conclusion, the GPC would also like to thank the ST's organization people for their excellent logistic arrangement.

NOTE: all the material is available to the project consortium through the SharePoint cloud domain of R3-PowerUP



TABLE OF CONTENTS

	Page
1 OBJECTIVE OF THE DOCUMENT	5
2 KICKOFF MEETING ORGANISATION: TWO DAYS MEETING.....	5
2.1 Kickoff meeting agenda	6
2.2 Some pics of the R3-PowerUP consortium	7
3 POSTERS ON DISPLAY AT THE KOM	8
4 SHAREPOINT: R3-POWERUP'S CLOUD DOMAIN	9



1 OBJECTIVE OF THE DOCUMENT

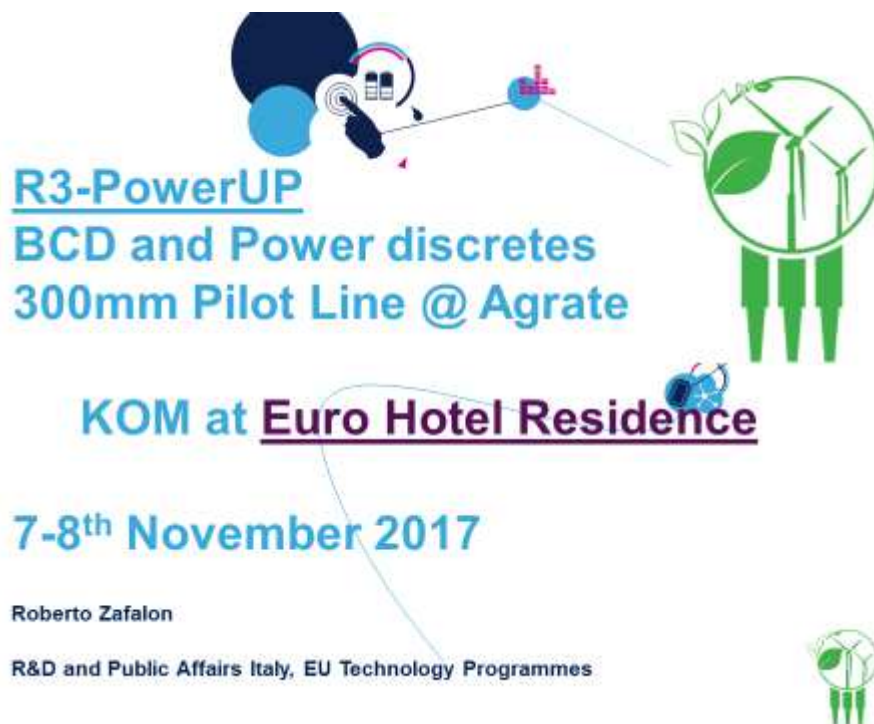


This document reports about the **R3-PowerUP kick-off meeting**, which took place in Agrate Brianza, Italy, on November 7th and 8th, 2017. The official project start-date was on November 1st 2017.

Section 2 provides few organizational information and the full agenda; section 3 shows the posters on display at the KOM; Section 4 summarizes the meeting's documentation.

← Graphic logo of R3-PowerUP's KOM, made by a professional web art designer.

2 KICKOFF MEETING ORGANISATION: TWO DAYS MEETING



The general project coordinator (GPC), Roberto ZAFALON (STMicroelectronics, Italy) led the two days' work with the 73 attendees, representing 35 beneficiaries coming from 14 member states. More than 90MB of technical data and material has been thoroughly presented and shared among the whole consortia. All partners contributed to get insight the project and to networking among the technical teams.

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2.1 Kickoff meeting agenda

Agenda KOM F2F meeting, 7th Nov 2017

First half-day, opens at 14h00

- join KOM with all the people needed from your team. Plenary can fit 90+
- ✓ 14h00 10' Project scope, vision and goals
- ✓ 14h10 15' Overview of Full Project's Work Plan (walk through Section 3)
- ✓ **14h30 Each WP Leader to prepare a 10-15' presentat. (WP1-4, WP6)**
 - ✓ List of tasks and deliverables, describe the individual activity plan, key interdependency with other WP/Tasks
- ✓ **16h00 Special Focus on WP5 "Demonstrators"**
 - ✓ 60' Overview from #D1-7 (Applications) and #D8-10 (Equip. and Ind 4.0)
 - ✓ **All Demos' Leaders (#D1-D10) to give detailed specs and analysis (6' max)**
- ✓ 17h00 – 18h00 Fringe meetings: Plenary Room + 2 side Rooms TBD

EoB at around 18h30

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Agenda KOM F2F meeting, 8th Nov 2017

Second half-day, opens at 8h30

- ✓ 8h30 Table of Effort and individual Exploitation Plan.
 - ✓ 3' individual exploitation plan
- ✓ 10h15 Coffee break
- ✓ 10h30 Project Coordination team (GPC, PM, Project Office)
- ✓ 10h45 Project Governance and Procedures
 1. Exploitation Mngr.(EM)
 2. Communication and synergy Mngr. (CM)
 3. Tech Access Committee (TAC)
 4. Country Coordinators (CC)
- ✓ 11h30 Legal & PCA, path to close the signatures by fall 2017.
- **13h00-14h00 Lunch Buffet and EoB**
 - allow 1 hour delay margin on closing time, based on needs.

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2.2 Some pics of the R3-PowerUP consortium





3 POSTERS ON DISPLAY AT THE KOM

R3-POWERUP



300mm Pilot Line for Smart Power and Power Discretes



Objectives

The goals of the project are:

- To develop and demonstrate a brand new 300mm advanced manufacturing facility for Smart Power technology, configured as a multi-STEP Pilot Line (i.e. Maskwork/etching, barrier/plating, Advanced Manufacturing)
- To improve productivity and competitiveness of integrated IC solutions for Smart Power and power discrete technologies.
- To support a variety of applications in the Automotive and industrial domains.

Relevance and Impact

Smart power ICs are enabling components for applications in which Europe is playing a leading role: from end power automotive, to industrial power, battery management systems for HEV, FEV and electric bikes, domestic, LED lighting for both indoor and outdoor, compute and industrial peripherals.

Power and RF nanoelectronics represents about 30% of the industrial semiconductor business, and has been characterized by a stable growing market. The global demand for power electronics in systems is expected to have a CAGR of 2% until 2020 (CAGR: Compound Annual Growth Rate). This will drive the market to 134.8 billion USD in the 2020. At the moment, 300mm fab for Smart Power devices are present or announced only in the USA and in Asia.

R3-POWERUP will establish the first 300mm Pilot Line in Europe for Smart Power and discrete power devices featuring 300nm lithography for high density, high voltage and power devices, and embedded Non-Volatile Memories for the realization of complex Systems-on-Chip. As such, it will fill the existing gap in the availability of 300mm Pilot Lines in Europe, which covers only Logic, CMOS and discrete power devices.

Technical Innovation

The project will push innovation in three sectors:

- Innovation in Power device technology, by integrating in a 300mm line an advanced 50nm logic process, requiring advanced E30nm lithography, low voltage devices, embedded non-volatile memory, multiple Copper metal levels, with high power high voltage devices, requiring dedicated substrate structures.
- Innovation in Equipment and Materials, by adopting existing equipment for power devices to new work of reliability and control, compatible with 300mm substrates, and developing new A/D equipment, a dedicated fab-control platform, and specific assembly solutions.
- Innovation in Application and future Products, by supporting seven application demonstrators, expressly developed for the Smart Power technology, and covering a variety of high potential fields, from Automotive to green energy, domestic and industrial control.



WP	WP1	WP2	WP3	WP4	WP5	WP6	WP7
WP1	Management	Development & Experimentation	Development & Experimentation	Development & Experimentation	Development & Experimentation	Demonstration & Exploitation	Demonstration & Exploitation
WP2	Management	Development & Experimentation	Development & Experimentation	Development & Experimentation	Development & Experimentation	Demonstration & Exploitation	Demonstration & Exploitation
WP3	Management	Development & Experimentation	Development & Experimentation	Development & Experimentation	Development & Experimentation	Demonstration & Exploitation	Demonstration & Exploitation
WP4	Management	Development & Experimentation	Development & Experimentation	Development & Experimentation	Development & Experimentation	Demonstration & Exploitation	Demonstration & Exploitation
WP5	Management	Development & Experimentation	Development & Experimentation	Development & Experimentation	Development & Experimentation	Demonstration & Exploitation	Demonstration & Exploitation
WP6	Management	Development & Experimentation	Development & Experimentation	Development & Experimentation	Development & Experimentation	Demonstration & Exploitation	Demonstration & Exploitation
WP7	Management	Development & Experimentation	Development & Experimentation	Development & Experimentation	Development & Experimentation	Demonstration & Exploitation	Demonstration & Exploitation

Project Coordinator
Roberto Zaccaro
Institute: STMicroelectronics S.p.A.
Email: roberto.zaccaro@st.com
Start: 1 May 2017
Duration: 48
Total investment: 142,500,000
Participating organizations: 35
Number of countries: 14

R3-POWERUP fact numbers

Upgrade TRL 5 to 8 smart power technology on 300mm Pilot Line
Cost per unit: 25 to 30% lower than at 200mm
Capital intensity: 70% of the 200mm line

10 Demos in 6 Application Domains

KPIs

- More than 120 MEUR private investments to exploit the project.
- 300 MEUR additional mid-term business expected out of the project results.
- 35 partners from 14 countries
- 20-25% increased sustainability
- 10-15% increased productivity thanks to fab automation

Unique Selling Points

- First 300mm Pilot Line Facility for Smart Power technology in Europe.
- World reference for innovative and competitive technology solutions for Energy saving and CO2 Reduction (ref. to COP21 Agreement*)
- Enabling electric mobility, energy savings and industry 4.0.
- R&D Fab capacity of 500 wafers/week @300mm by mid 2020.

35 partners from 14 Countries

*COP21: ST signed the business-related proposal of COP21, enforcing its commitment for Sustainability!

- 70% of PF2K emissions in operations neutralized
- 40% energy consumption vs 1995
- 100% Water-Clean
- More than 91% of waste reuse/recycle
- Only 4.2% of landfilled waste



4 SHAREPOINT: R3-POWERUP'S CLOUD DOMAIN

For the members of the project consortium and the ECSEL PO (through authorized login only), you may find hereafter the reference to the SharePoint cloud domain, where the full set of documents, including some pics from the event, are archived.

[Kick-Off Meeting 7-8 November](#)

