



Horizon 2020  
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# VITAL

[www.vital-iot.eu](http://www.vital-iot.eu)



## Open Internet of Things Summer School

7-13 September 2016, Galway City, Ireland

### PROGRAM

	Wednesday 07/09/2016	Thursday 08/09/2016		Friday 09/09/2016		Saturday 10/09/2016	Sunday 11/09/2016	Monday 12/09/2016		Tuesday 13/09/2016
Time Session	Open Source	Interoperability		Hackathon		Demonstrators	Sighting	Developers		Smart Cities
Time Session	Room Main	Room Main	Room A	Room Main	Room A	Room Main	N/A	Room A	Room Main	Room Main
09.00–10.30	Registration  <b>Dietrich Rebholz S.</b> NUIG-Insight Welcome Opening  <b>Martin Serrano</b> NUIG-OpenIoT  The OpenIoT Architecture  OpenIoT Middleware Components Overview  <b>Prem Jayaraman (TBC)</b> RMIT-OpenIoT  OpenIoT Virtual Box OpenIoT-VDK	VITAL-OS components and Integration - Full Day (Closed Session)		Semantic Interoperability – BIG-IoT Demonstrators and Support Session		VITAL-OS components and Integration - Full Day (Closed Session)		Semantic Interoperability – BIG-IoT Demonstrators and Support Session		Registration  <b>Martin Serrano</b> NUIG-Insight Welcome  <b>Martin Brynskov</b> Aarhus-OASC  <b>Niall O'Brolchain</b> <b>NUIG-OASC</b> OASC Ireland 2016-2017 GCTC Challenge  <b>Aqeel H. Kazmi</b> NUIG-VITAL  The VITAL Architecture  VITAL-OS Middleware overview
10:30-11:00		Coffee Break		Coffee Break		Coffee Break	Coffee Break	Coffee Break		Coffee Break

11:00-12:30	<b>Aqeel H. Kazmi</b> NUIG-VITAL  The VITAL Architecture  VITAL-OS Middleware Core Components overview  <b>Aggelos Lenis (TBC)</b> SiLo-VITAL  VITAL-OS PaaS VITAL-OS Services	VITAL-OS components and Integration - Full Day (Closed Session)		Semantic Interoperability – BIG-IoT Demonstrators and Support Session		VITAL-OS components and Integration - Full Day (Closed Session)		Semantic Interoperability – BIG-IoT Demonstrators and Support Session		<b>Martin Serrano</b> NUIG-VITAL  VITAL-OS Live Demos  Air Quality Monitoring Living Labs  Smart City Operating System	Tour to the Cliffs of Möher or a Medieval Castle – Full Day subject to Num. of participants	Open-IoT and City Pulse components and Integration - Support Session	VITAL-OS components and Integration - Support Session	<b>OASC Ireland Session</b> <b>Niall O'Brolchain</b> NUIG-OASC Chair  <b>TBC</b> Dublin Smart City  <b>TBC</b> Cork Smart Gateway  <b>TBC</b> Galway Connected Hub  <b>TBC</b> Limerick Smart Hub  Next Steps Conclusions
12.30-13.30	Lunch	Lunch Westwood Restaurant		Lunch Westwood Restaurant		Lunch Westwood Restaurant		Lunch Westwood Restaurant		Lunch Westwood Restaurant	Lunch Westwood Restaurant	Lunch Westwood Restaurant	Lunch Westwood Restaurant	Lunch Westwood Restaurant
Time Session	Open Source	Interoperability		Hackathon		Demonstrators		Sighting		Developers		IoT Industry		
Time Session	Room Main	Room Main	Room A	Room Main	Room A	Room Main		N/A		Room A	Room Main	Room Main		
13:30-15:00	<b>Ali Intizar</b> NUIG-CITY PULSE  The CITY PULSE Architecture  CITY PULSE Middleware Core Components overview  <b>Chan le Van (TBC)</b> NUIG-CityPulse  CITY PULSE Services & Tools	VITAL-OS components and Integration - Full Day (Closed Session)		Semantic Interoperability – BIG-IoT Demonstrators and Support Session		VITAL-OS components and Integration - Full Day (Closed Session)		Semantic Interoperability – BIG-IoT Demonstrators and Support Session		<b>Brendan Smith</b> NUIG-Insight  <b>Lukaz Porwol</b> NUIG-Insight  Computer and Communications Museum of Ireland Visit	Tour to the Cliffs of Möher or a Medieval Castle – Full Day subject to Num. of participants	Open-IoT and City Pulse components and Integration - Support Session	VITAL-OS components and Integration - Support Session	<b>Martin Serrano</b> NUIG-Insight  VITAL-OS Platform  VITAL-OS Light and Noise Pollution Monitoring Living lab  <b>TBC</b> Galway City Council Galway Smart City Project  Surveys & Questionnaires
15:00-15:30	Coffee Break	Coffee Break		Coffee Break		Coffee Break		Coffee Break		Coffee Break	Coffee Break	Coffee Break	Friday Meeting	

Time Session	Room Main	Room Main	Room A	Room Main	Room A	Room Main	N/A	Room A	Room Main	Room Main
16.00-17.30	<b>Achille Zappa</b> NUIG-BIG-IoT  The BIG-IoT Architecture  BIG-IoT API and Marketplace overview  <b>Hoan NGuyen (TBC)</b> NUIG-BIG-IoT  BIG-IOT Semantics & Interoperability	VITAL-OS components and Integration - Full Day (Closed Session)	Semantic Interoperability – BIG-IoT Demonstrators and Support Session	VITAL-OS components and Integration - Full Day (Closed Session)	Semantic Interoperability – BIG-IoT Demonstrators and Support Session	Annual Summer BBQ  (based on weather conditions)  Otherwise social event in a Location TBD	Tour to the Cliffs of Möher or a Medieval Castle – Full Day subject to Num. of participants	Open-IoT and City Pulse components and Integration - Support Session	VITAL-OS components and Integration - Support Session	B&B Electronics Ireland SmartBox  DEW Mobility USA IoT Box  Phillips (TBC) Smart Lighting  Closure
18:30-Onwards	** Galway City Tour  Dinner all together (Optional)	*** Salthill City Tour  Dinner all together (Optional)	Social Event Location TBD Usually an Irish Restaurant/PUB	** Galway Nightlife Tour  Dinner all together (Optional)	**** Sighting Tour  Dinner all together (Optional)	Social Event Location TBD Usually an Irish Restaurant/PUB	**Galway City Tour  Dinner all together (Optional)			

\* Guided visit by groups to the Computer and Communications Museum of Ireland located at the Insight-centre NUI Galway

\*\* Guided visit by groups to Galway City

\*\*\* Guided visit by groups to Salthill

\*\*\*\* Sighting tour to cliffs of Möher or a Medieval Castle



[www.openiot.eu](http://www.openiot.eu)



[www.vital-iot.eu](http://www.vital-iot.eu)



[www.fiesta-iot.eu](http://www.fiesta-iot.eu)



[www.arcadia-framework.eu](http://www.arcadia-framework.eu)



[www.big-iot.eu](http://www.big-iot.eu)



[www.ict-citypulse.eu](http://www.ict-citypulse.eu)



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## Open Internet of Things Summer School

7 - 13 September 2016, Galway City, Ireland

### INVITATION

The Open Internet of Things summer school is an event organized by the OpenIoT consortium, VITAL-OS Project and FIESTA Project following the EU IERC-Strategic Research and Innovation Agenda (2015-2016 IERC IoT-SRIA) with focus on providing insights about Open Source Solutions, Service Openness and Semantic Interoperability for the Internet of Things.

#### OBJECTIVE

Open Internet of Things Summer School is an international event for the different stakeholders involved in the IoT ecosystem, scientific researcher(s) across Europe and other parts of the world, open Source communities and developers and to any large enterprise or entrepreneurs (SME) / individuals interested to participate, contribute, develop and acquire the know-how about Internet of Things technology, Middleware platforms and services and Applications based on the Open source IoT middlewares.

In the Open Internet of Things summer school are covered in depth a range of specialized Internet of Things technical related topics, from sensor networks, sensing data, stream data processing, methods and protocol implementation to service openness, interoperability, service scheduling, delivery, utility management, and their applications with focus on IoT horizontal solutions in multidisciplinary areas, (e.g. smart city, intelligent manufacturing, car2car communications, M2M, smart appliances, etc.)



## WHAT TO EXPECT

Problem analysis (case-by-case) and resolution via direct support from the experts in the area of data management, distributed systems design, ontology engineering, semantic technologies and senior researchers.

Close collaboration and hands on work between academy and industry for sharing best, of both sides, experiences from using Open Source Platforms and middleware for the Internet of Things.

The problem resolution and deep analysis for possible extensions in response of the demands from developers and IoT solution providers and also from the open source community.

## SUMMER SCHOOL FORMAT

2016 Open Internet of Things summer school is a unique opportunity to learn directly from technical experts and system developers about the status, progress and plans for Open Internet of Things trends and evolution.

Open challenges in the area of Internet of Things are also part of the expected outcomes.

Open Internet of Things Summer School combines keynote talks lectures on fundamental and applied aspects of the Internet of Things with hands-on tutorials and experimentation, providing the participants with a solid understanding and experience to further advance research using Open source platforms, IoT middleware and cloud infrastructures and IoT technology.

## WHY TO ATTEND?

The aims of the Open Internet of Things summer school are to:

Learn the design principles, core architectural components, basics of functionality and practical experience(s) about open source platforms, large Scale Self-organizing Cloud Environments and Internet of Things Applications

### Design and Principles

- Overall aspects for Internet of Things.
- Core components and applied aspects for Open Source IoT Architecture(s).
- Service Openness and Semantic Interoperability principles.
- Recent advances in the IoT open source platforms landscape.
- Important research challenges and directions for semantic interoperability.

### Technical and Hands-on

- Experimentally-driven IoT experience in the form of hands-on sessions.
- Resolution of specific Internet of Things-related problems.
- Know how on one of the flagship leading European IoT middleware(s).

### Networking

- Contact with experts in the IoT domain(s) at first class research facilities.
- Networking with IoT researchers and experienced scholars.
- Academic and industrial exchange.
- Opportunities to open discussions and round tables.
- Brainstorming, discuss and share your own ideas.
- Expand your skills and expertise on handling Open Source solutions.

## REGISTRATION

Please get your free ticket in Eventbrite and once you get your ticket confirmation

<http://www.eventbrite.com/e/2016-open-internet-of-things-summer-school-tickets-27205600684>

Fill the online attendance list selecting the days and event you would like to attend

<http://doodle.com/poll/m9ra7bwsyawz2qsv>

Soon after you register in Eventbrite, we will send you an email to confirm your registration and with the instructions regarding the summer school. In the unlikely event you don't receive any confirmation from us or if any question arise during the registration process, please don't hesitate to contact us

<http://openiot.eu/?q=contact>

## THE COST

The Open IoT summer school participation is FREE of cost



1. Coffee Breaks: Sponsored by NUIG Insight-Galway
2. Lunch: (Wed 7<sup>th</sup> Sept, Thu 8<sup>th</sup> Sept, Fri 9<sup>th</sup> Sept)  
Estimated cost 10-20 Euro paid in situ with individual receipts.
3. Social Event (Friday 9<sup>th</sup> Sept), venue to be confirmed.  
Estimated cost 35-40 Euro paid in situ with individual receipts
4. Summer BBQ (Saturday 10<sup>th</sup> Sept) subject to weather conditions  
Estimated cost 15-20 Euro paid in situ – No receipts provided  
(Summer BBQ is subject to voluntary organization and participation)
5. Sighting Event (Sunday 11<sup>th</sup> Sept) subject to participation  
Estimated cost 20-25 Euro paid in situ – No receipts provided  
(Toru to the Cliffs of Möher or a Medieval Castle subject to Num. of participants)
6. Lunch: (Mon 12<sup>th</sup> Sept, Tue 13<sup>th</sup> Sept)  
Estimated cost 10-20 Euro paid in situ with individual receipts.
7. Social Event (Mon 12<sup>th</sup> Sept), venue to be confirmed.  
Estimated cost 35-40 Euro paid in situ with individual receipts

NOTE: is responsibility of the participants make arrangements by themselves for their accommodation (see below ACCOMMODATION for more details)

## EVENT DATES

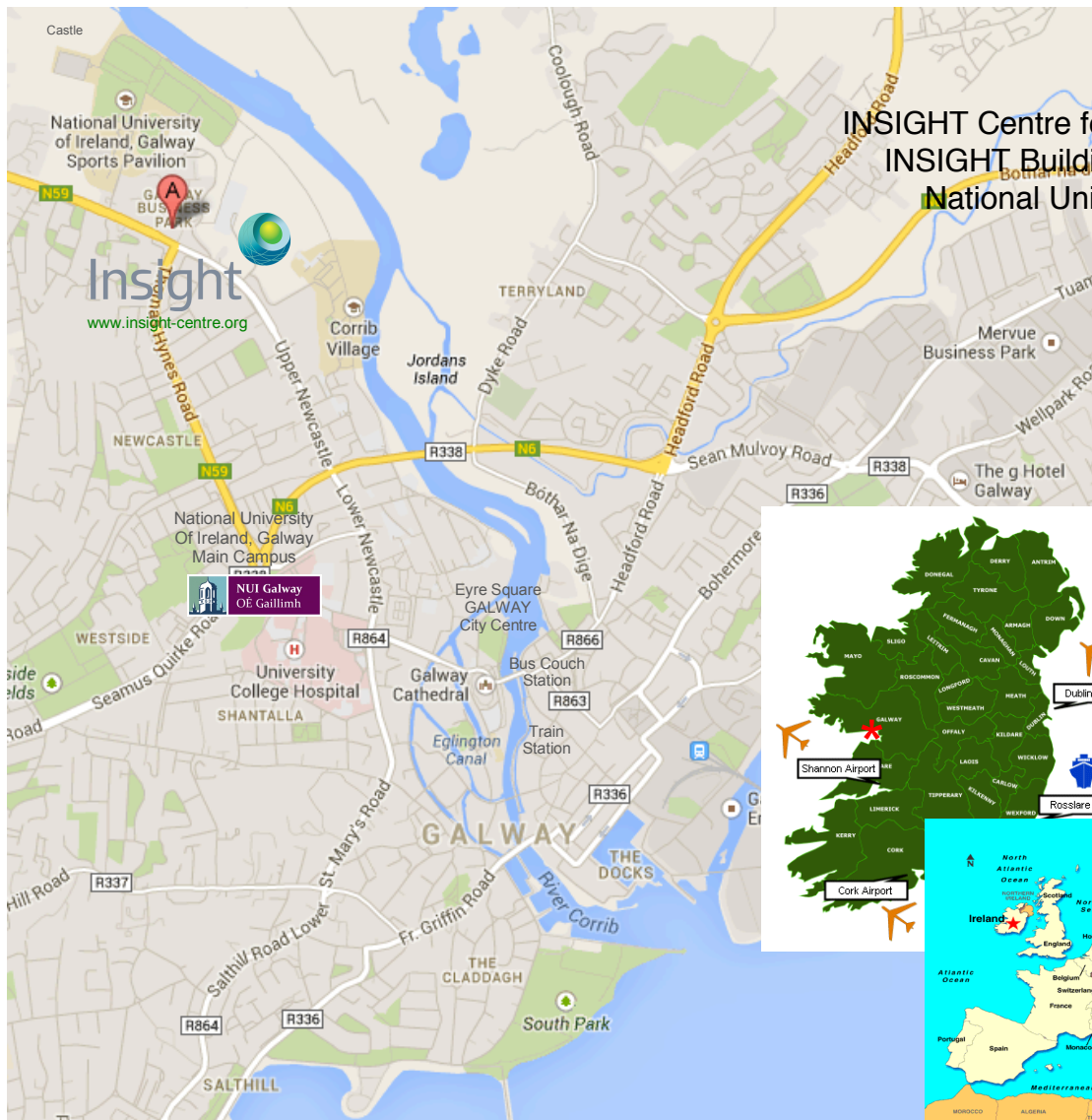
Open Internet of Things Summer School  
7-13 September 2016, Galway City, Ireland

## VENUE

The Summer School will be hosted at:

INSIGHT Centre for Data Analytics Galway  
DERI Building - Main Meeting Room  
National University of Ireland Galway  
Lower Dangan  
IDA Business Park  
Galway City  
Co. Galway  
Ireland

Attached there is a Map explaining where to find us.



INSIGHT Centre for Data Analytics Galway  
INSIGHT Building - Main Meeting Room  
National University of Ireland Galway  
Lower Dangan  
IDA Business Park  
Galway City  
Co. Galway



OpenIoT Consortium 2016

ACCOMMODATION

Attached there is a list of hotels with University rates

## TRAVEL

Dublin Airport

<http://www.dublinairport.com/home.aspx>

There are two Express BUS couch services from Dublin to Galway

Dublin Airport - Galway City - [www.citylink.ie](http://www.citylink.ie) <<http://www.citylink.ie/>> Express service

<http://citylink.ie/images/citylink-dublin-express-timetable-for-web.pdf>

Dublin Airport - Galway City - [www.gobus.ie](http://www.gobus.ie) <<http://www.gobus.ie/>> Express service

[http://www.gobus.ie/uplds/gobus\\_summer\\_timetable\\_2014\\_\(inside\).pdf](http://www.gobus.ie/uplds/gobus_summer_timetable_2014_(inside).pdf)

<[http://www.gobus.ie/uplds/gobus\\_summer\\_timetable\\_2014\\_%28inside%29.pdf](http://www.gobus.ie/uplds/gobus_summer_timetable_2014_%28inside%29.pdf)>

Shannon Airport

<http://www.shannonairport.ie/gns/Passengers/Home.aspx>

There are scheduled bus service from Shannon Airport to Galway City

Dublin Airport - Galway City - [www.buseireann.ie](http://www.buseireann.ie) <<http://www.buseireann.ie/>> services

<http://www.buseireann.ie/pdf/1360753025-051.pdf>

## Hotel Accommodation - Galway

Last Update: June 2014

Star Rating	Hotel	Address	Reservations No	Single	Double	Additional Information	Other Benefits	Credit Facilities - do you accept purchase order	Email	Website
<b>City Centre</b>										
***	<b>Imperial Hotel</b>	Eyre Square, Galway	091 563033	<b>€69 B&amp;B(Cont)</b>	<b>€89 B&amp;B(Cont)</b>			Yes	<a href="mailto:imperialhotelgalway@gmail.com">imperialhotelgalway@gmail.com</a>	<a href="http://www.imperialhotelgalway.ie">www.imperialhotelgalway.ie</a>
***	<b>Forster Court Hotel</b>	Forster Street, Eyre Square, Galway	091 564111	<b>€65 B&amp;B</b>	<b>€75 B&amp;B</b>	3* boutique style property in the heart of Galway	Close to bus and train station, discounted parking, complimentary wi-fi		<a href="mailto:shelley@forstercourthotel.com">shelley@forstercourthotel.com</a>	<a href="http://www.forstercourthotel.com">www.forstercourthotel.com</a>
***	<b>Jurys Inn Galway</b>	Quay Street, Galway	091 566444	<b>€65 B&amp;B (twin)</b>	<b>€75 B&amp;B (twin)</b>		Complimentary wifi and newspaper	Yes	<a href="mailto:jurysinnsqalway@jurysinns.com">jurysinnsqalway@jurysinns.com</a>	<a href="http://www.jurysinns.com">www.jurysinns.com</a>
***	<b>Harbour Hotel</b>	New Dock Road, Galway	091 894800	<b>€89 B&amp;B</b>	<b>€99 B&amp;B</b>		Discounted parking rates	Yes	<a href="mailto:sales@harbour.ie">sales@harbour.ie</a>	<a href="http://www.harbour.ie">www.harbour.ie</a>
****	<b>Pillo Hotel &amp; Spa Galway</b>	Headford Point, Headford Road, Galway	091 513200 / 091 513222	<b>€79 B&amp;B</b> <i>Excl 28 Jul - 3 Aug</i>	<b>€89 B&amp;B</b> <i>Excl 28 Jul - 3 Aug</i>		Fitness Suite, Free underground parking, Wi-fi	Yes	<a href="mailto:reservations@pillohotelgalway.com">reservations@pillohotelgalway.com</a>	<a href="http://www.pillohotelgalway.com">www.pillohotelgalway.com</a>
****	<b>Hotel Meyrick</b>	Eyre Square, Galway	091 564041	<b>€85 B&amp;B</b> <i>Jan-Apr, Oct-Dec.</i> <b>€95 B&amp;B</b> <i>May-Sept</i>	<b>€110 B&amp;B</b> <i>Jan-Apr, Oct-Dec.</i> <b>€120 B&amp;B</b> <i>May-Sept</i>			Yes	<a href="mailto:reshm@hotelmeyrick.ie">reshm@hotelmeyrick.ie</a>	<a href="http://www.hotelmeyrick.ie">www.hotelmeyrick.ie</a>
****	<b>Radisson BLU Hotel &amp; Spa Galway</b>	Lough Atalia Road, Galway	091 538300	<b>€100 B&amp;B</b> <i>Excl 30 Jul - 1 Aug</i>	<b>€110 B&amp;B</b> <i>Excl 30 Jul - 1 Aug</i>		Complimentary access to gym, pool, sauna, steam room & outdoor hot tub		<a href="mailto:reservations.galway@radissonblu.com">reservations.galway@radissonblu.com</a>	<a href="http://www.radissonhotelgalway.com">www.radissonhotelgalway.com</a>
<b>Close to NUI Galway</b>										
****	<b>4* Westwood Hotel</b>	Dangan, Galway.	1850 366 000	<b>€89 B&amp;B</b>	<b>€99 B&amp;B</b>	Quote NUIG rate	Free Wifi, free parking, within walking distance to NUIG, 10% off bar food for NUI Galway guests	Yes	<a href="mailto:resmanager@westwoodhousehotel.com">resmanager@westwoodhousehotel.com</a>	<a href="http://www.westwoodhousehotel.com">www.westwoodhousehotel.com</a>
****	<b>Glenlo Abbey Hotel</b>	Bushypark, Galway	091 519600	<b>€89 B&amp;B</b>	<b>€109 B&amp;B</b>	Quote NUIG rate	Complimentary carparking	Yes	<a href="mailto:stay@glenloabbey.ie">stay@glenloabbey.ie</a>	<a href="http://www.glenlo.com">www.glenlo.com</a>

Note: A maximum threshold of €100 was set for B and B Single Occupancy. Any hotels not willing to reduce their rates below this threshold are excluded from the listing.



## Hotel Accommodation - Galway

Last Update: June 2014

Star Rating	Hotel	Address	Reservations No	Single	Double	Additional Information	Other Benefits	Credit Facilities - do you accept purchase order	Email	Website
<b>Salthill/Knocknacarra</b>										
***	<b>Hotel Clybaun</b>	Clybaun Road, Knocknacarra, Galway	091 588088	€69 B&B excl 28th Jul - 5 Aug	€89 B&B excl 28th Jul - 5 Aug		Reduced Taxi Fare	Yes	reservations@hotelclybaun.com	www.hotelclybaun.com
****	<b>Galway Bay Hotel</b>	Salthill, Galway	091 520 520	€79 B&B Limited rooms July/Aug	€59 B&B Limited rooms July/Aug	NUI Galway	Express CheckOut	Yes	info@galwaybayhotel.com	www.galwaybayhotel.com
<b>Close to GMT</b>										
***	<b>The Connacht Hotel (formerly Carlton Hotel Galway)</b>	Dublin Road, Galway	091 381200	€75 B&B Jan-Jun, Sep-Dec. €85 B&B Jul-Aug	€95 B&B Jan-Jun, Sep-Dec. €105 B&B Jul-Aug		Free Parking, wi-fi, access to leisure club, welcome pack, newspaper. Apartment rentals also available for longer stays.		reservations@theconnacht.ie	www.theconnacht.ie
***	<b>Flannerys Hotel Galway</b>	Dublin Road, Galway City East	091 755 111	€75 B&B Jun/Jul/Aug €60 B&B other months	€99 B&B Jun/Jul/Aug €79 B&B other months		Free wifi, free parking	No	reservations@flanneryshotel.net	www.flanneryshotelgalway.com
****	<b>Clayton Hotel</b>	Ballybrit, Galway	091 721900	€79 B&B Excl 27 Jul - 5 Aug	€89 B&B Excl 27 Jul - 5 Aug	Quote NUI rate		Yes	info@clayton.ie	www.clayton.ie
****	<b>The g Hotel</b>	Wellpark, Galway.	091 865200	€95 B&B / €90 RO	€115 B&B / €110 RO		Complimentary wifi, carparking, access to gym area and business centre, newspaper, use of Thermal Suite		reservetheg@the-g.ie	www.the-g-hotel.ie

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Last Update: June 2014

Star Rating	Hotel	Address	Reservations No	Single	Double	Additional Information	Other Benefits	Credit Facilities - do you accept purchase order	Email	Website
<b>County Galway</b>										
***	<b>Maldron Hotel Galway</b>	Oranmore, Co. Galway	091 792244	€75 B&B	€85 B&B or best available	NUI Rate	Taxi discount with Oran Cabs	Yes	res.galway@maldronhotels.com	www.maldronhotelgalway.com
***	<b>Raheen Woods Hotel</b>	Athenry, Co Galway	091 875 888	€69 B&B	€79 B&B	RWHNUIG2014	Full use of Tranquility Leisure Centre. Pick up from rail station available		info@raheenwoodshotel.ie	www.raheenwoodshotel.ie
****	<b>The Twelve Hotel</b>	Barna, Galway	091 597010	€80 B&B	€90 B&B	Quote Nui Galway Rate			enquire@thetwelvehotel.ie	www.thetwelvehotel.ie



www.arcadia-framework.eu



www.big-iot.eu



www.ict-citypulse.eu

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