

# FINAL PROGRAM



18 – 20 September 2019



**Breda**  
**The Netherlands**  
Organized and Sponsored by



## PROGRAMME AT A GLANCE

### **Wednesday September 18**

08.30-15.30 Registration  
09.00-09.30 Welcome  
09.30-10.30 Keynote  
10.30-11.00 Coffee Break  
11.00-12.30 Session II  
12.30-14.00 Lunch  
14.00-15.00 Invited Talk  
15.00-15.30 Coffee Break  
15.30-16.30 Session IV  
16.30- Exhibition  
19.00 Social Programme – Dinner at restaurant Con Fuego -(not included in the conference fee, on a voluntary basis only).

### **Thursday September 19**

08.30-15.30 Registration  
09.00-10.00 Keynote  
10.00-10.30 Coffee Break  
10.30-12.30 Session VI:  
12.30-14.00 Lunch  
14.00-15.00 Keynote  
14.30-15.00 Coffee Break  
15.30-16.30 Session VIII  
16.30-18.00 Workshop  
20.00-23.00 Conference Dinner at Restaurant Pampelonne

### **Friday September 20**

09.00-09.30 Registration  
09.00-10.00 Keynote  
10.00-10.30 Coffee Break  
10.30-12.30 Session XI  
12.30-12.45 Closing Session

# GAME-ON'2019 FINAL PROGRAMME

Overhead and LCD Projector are standard  
 The underlined authors are usually the presenters.  
 Conference Site: **Breda University of Applied Sciences, S Building, Room S2.013,**  
**Sibeliuslaan 13, 4837 Breda, The Netherlands**  
 For any local information contact: 📞 Tel. +31.76.533.2203, ✉ Email: [grigg.r@BUas.nl](mailto:grigg.r@BUas.nl),  
**Coffee breaks at the Staff Café and lunches at the Mastbosch Hotel**

**Only papers in gray boxes are eligible for the best paper award**

## Wednesday, September 18, 2019

08.30 - 15.30      **Registration**

09.00 - 09.30      **S Building - Room S2.013 - WELCOME**

### **Welcome and General Information**

Robert Grigg, GAME-ON'2019 General Conference Chair

### **Opening of GAME-ON'2019**

Elisabeth Minnemann, President of Breda University of Applied Sciences

09.30 - 10.30      **S Building - Room S2.013 - SESSION I  
KEYNOTE SPEAKER**

**09.30-10.30**

**Session Chairperson:**

**Robert Grigg, Breda University of Applied Sciences, Breda, NL**



**GAME\_KEY\_03**

**[Game-Based Psychotherapy](#)**

Liliana Vale Costa, Universidade de Aveiro, Aveiro, Portugal

## Wednesday, September 18, 2019

10.30 - 11.00 Coffee Break at the Staff Café - Ground floor - S0.014

### 11.00 - 12.30 Building S - Room S2.013 - SESSION II GAME DESIGN FUNDAMENTALS

10.30-12.30

Session Chairperson:

Mata Haggis-Burridge, Breda University of Applied Sciences,  
Breda, NL

#### GAME\_METH\_02

Gameplay Definition: a Game Design Perspective

Emmanuel Guardiola ..... 5

#### GAME\_AFFECT\_01

Affective Games: Adaptation and Design

Salma Hamdy and David King ..... 11

#### GAME\_DES\_01

Gender and Play in Goblin Dice

Hamna Aslam, Joseph Alexander Brown, Evgenii Nikolaev  
and Elizabeth Reading..... 19

#### GAME\_SER\_04

Serious and Entertaining

Edmund Carlo Louis van den Akker ..... 67

12.30 - 14.00 Lunch at the Mastbosch Hotel

### 14.00 - 15.00 Building S - Room S2.013 - SESSION III INVITED SPEAKER

14.00-15.00

Session Chairperson:

Robert Grigg, Breda University of Applied Sciences, Breda, NL

**Wednesday, September 18, 2019**



**GAME\_INV\_01**

**Virtual Reality as an Experiential Art Form**

Iris van der Meule, AKV St.Joost Den Bosch, Den Bosch, The Netherlands

15.00 - 15.30 **Coffee Break at the Staff Café - Ground floor - S0.014**

15.30 - 16.30 **S Building - Room S2.013 - SESSION IV  
GAME AI**

**15.30-16.30**

**Session Chairperson:**

**Robert Grigg, Breda University of Applied Sciences, Breda, NL**

**GAME\_VIR\_01**

**Using a Genetic Algorithm for the Procedural Generation of Layered Materials for Real-Time Rendering**

Alessio Bernardi, Davide Gadia, Dario Maggiorini and Laura Anna Ripamonti ..... **29**

**GAME\_AI-03**

**Adding Variety in NPC Behaviour using Emotional States and Genetic Algorithms: The Genie Project**

Federica Agliata, Marcello Bertoli, Laura Anna Ripamonti, Dario Maggiorini and Davide Gadia ..... **45**

16.30 - **S Building – Ground Floor and First Floor  
RESEARCH AND STUDENT EXHIBITION**

**16.30-**

GAME-ON 2019 participants are invited to the games exhibition in Building S. where students of the Breda University of Applied Sciences will show their work in progress.

**19.00- .....**



**Free Evening or join us for an Informal Dinner on a voluntary Basis (Not included in the Conference Fee) at CON FUEGO (<https://www.restaurantconfuego.nl/>) Grote Markt 24, Breda**

## Thursday, September 19, 2019

08.30 - 15.30 **Registration**

09.00 - 10.00 **S Building - Room S2.013 - SESSION V  
KEYNOTE**

09.00-10.00

**Session Chairperson:**

**Robert Grigg, Breda University of Applied Sciences, Breda, NL**



**GAME\_KEY\_01**

**[The Journey to Content: Developing a model for understanding Video Game Interactions](#)**

Mata Haggis-Burridge, Professor of Creative and Entertainment Games, BUas, Breda, The Netherlands

10.00 - 10.30 **Coffee Break at the Staff Café - Ground floor - S0.014**

10.30 - 12.30 **S Building - Room S2.013 - SESSION VI  
DATA ANALYTICS AND PLAYER BEHAVIOURAL ANALYSIS I**

10.30-12.30

**Session Chairperson:**

**Carlos Santos, Breda University of Applied Sciences, Breda, NL**

**GAME\_ANA\_01**

**The ACE2 Model: Refining Bartle's Player Taxonomy for Creation Play**

Thomas van Dam and Sander Bakkes ..... **53**

**GAME\_STORY\_01**

**Implementing Drama Management for Improved Player Agency in Interactive Storytelling**

Christopher McEvoy and David King ..... **63**

**Thursday, September 19, 2019**

**GAME\_DES\_02**

**A Taxonomy for Achievements in Digital Games**

Sofia Yermolaieva and Joseph Alexander Brown .....71

12.30 - 14.00 **Lunch at the Mastbosch Hotel**

14.00 - 15.00 **S Building - Room S2.013 - SESSION VII  
KEYNOTE SPEAKER**

**14.00-15.00**

**Session Chairperson:**

**Robert Grigg, Breda University of Applied Sciences, Breda, NL**



**GAME\_KEY\_04**

**[Interactive Machine Learning for More Expressive Game Interactions](#)**

Phoenix Perry, Goldsmiths - University of London, London, United Kingdom

15.00 - 15.30 **Coffee Break at the Staff Café - Ground floor - S0.014**

15.30 - 16.30 **S Building - Room S2.013 - SESSION VIII  
DATA ANALYTICS AND PLAYER BEHAVIOURAL ANALYSIS II**

**15.30-16.30**

**Session Chairperson:**

**Thomas Buijtenweg, Breda University of Applied Sciences, Breda, NL**

**GAME\_AI\_01**

**N-Layered Feudal Network in an RTS Game Environment**

Benjamin Bugeja, Jean-Paul Ebejer and Sandro Spina .....37

**GAME\_AI\_05**

**Understanding Player Engagement and In-Game Purchasing Behavior with Ensemble Learning**

Anna Guitart, Ana Fernández del Río and África Perriáñez .....78

## Thursday, September 19, 2019

16.30 - 18.00 S Building - Room S2.013 - SESSION IX  
TUTORIAL

16.30-18.00

Session Chairperson:  
Robert Grigg, Breda University of Applied Sciences, Breda, NL



**GAME\_TUT\_01**

**[Being a "Visual Novel" storyteller with Fungus Unity 3D](#)**

Liliana Vale Costa, Universidade de Aveiro, Aveiro, Portugal

### CONFERENCE DINNER

20.00-23.00



The Conference dinner will be held on Thursday the 19th of September at

**[Restaurant Pampelonne](#)**

Van Coothplein 12

4811 NE Breda, The Netherlands

 Tel: +31 76 888 3111

 Email: [info@pampelonne-breda.nl](mailto:info@pampelonne-breda.nl)

## Friday, September 20, 2019

09.00 - 09.30 **Registration**

09.00 - 10.00 **S Building - Room S2.013 - SESSION X  
KEYNOTE**

09.00-10.00

**Session Chairperson:**

**Robert Grigg, Breda University of Applied Sciences, Breda, NL**



**GAME\_KEY\_02**

**[Let's get a little bit serious](#)**

Olivier Dauba, VP Editorial at Ubisoft, Ubisoft, Paris, France

10.00 - 10.30 **Coffee Break at the Staff Café - Ground floor - S0.014**

10.30 - 12.30 **S Building - Room S2.013 - SESSION XI  
REAL WORLD GAMIFICATION**

10.30-12.30

**Session Chairperson:**

**Igor Mayer, Breda University of Applied Sciences, Breda, NL**

**GAME\_DES\_05**

**A Systematic Literature Review of Gamification Design**

Rokia Bouzidi, Antonio De Nicola, Fahima Nader

and Rachid Chalal ..... 89

**GAME\_METH\_01**

**Game and Humanitarian: From Awareness to Field Intervention**

Emmanuel Guardiola ..... 94

**GAME\_SER\_03**

**Sharing Sustainability Data through an Open Data Game**

Kaisa Könnöla, Marko Lopenen, Markus Krusberg

and Teijo Lehtonen ..... 102

## Friday, September 20, 2019

### **GAME\_SER\_01**

**A Shipping Simulation through Pathfinding: *SEL* within the MSP Challenge Simulation Platform**

Phil de Groot, Wilco Boode, Carlos Pereira Santos, Harald Warmelink and Igor Mayer..... **108**

12.30 - 12.45 **S Building - Room S2.013 - SESSION XII**  
**CLOSING SESSION AND BEST PAPER AWARD**

**12.30-12.45**

**Session Chairperson:**

**Robert Grigg, Breda University of Applied Sciences, Breda, NL**

**Philippe Geril, EUROSIS-ETI, Ostend, Belgium**

## SOCIAL PROGRAMME INFORMATION

### Coffee breaks



Coffee breaks will be served in the **Staff Café - Ground floor - S0.014** in the **S Building, Breda University of Applied Sciences, Sibeliuslaan 13, Breda, The Netherlands.**

☎ Tel: +31.76.533.2203

### Lunches



Lunches will be served at the **Mastbosch Hotel, Burgemeester Kerstenslaan 20, 4837 Breda.**

☎ Tel: + 31 76 565 0050

### Conference Dinner on the 19th of September



The Conference dinner will be held on Thursday the 19th of September at

**[Restaurant Pampelonne](#)**

Van Coothplein 12

4811 NE Breda, The Netherlands

☎ Tel: +31 76 888 3111

✉ Email: [info@pampelonne-breda.nl](mailto:info@pampelonne-breda.nl)

# SESSION CHAIR INFORMATION

## Information for Session Chairs

Session Chairs are chosen on a voluntary basis by proposals by either authors or local committee members or are appointed by the Track Chairs, General Program Chair or General Conference Chair. They are responsible for their assigned session. They make sure their speakers are available, take care of the timing within the session, chair the discussion after each presentation and introduce each speaker based on the CV's given to them by the authors. In case they chair a session featuring **extended papers**, then they are required to distribute and collect the reviews of that or those papers at the beginning and end of the session. If they have time they should also indicate in their papers the number of session participants.



# 2020



**SEE YOU ALL NEXT YEAR AT  
GAMEON 2020  
September 23-25, 2020,  
Department of Communication  
and Art, [University of Aveiro](http://www.ua.pt),  
Aveiro, Portugal**

**Proposals for special  
tracks/tutorials/demos can be  
sent in by January 30<sup>th</sup> 2020**

# CONFERENCE LOCATION

## Conference Venue



[Breda University of Applied Sciences](#)

S Building – Room S2.013

Sibeliusslaan 13

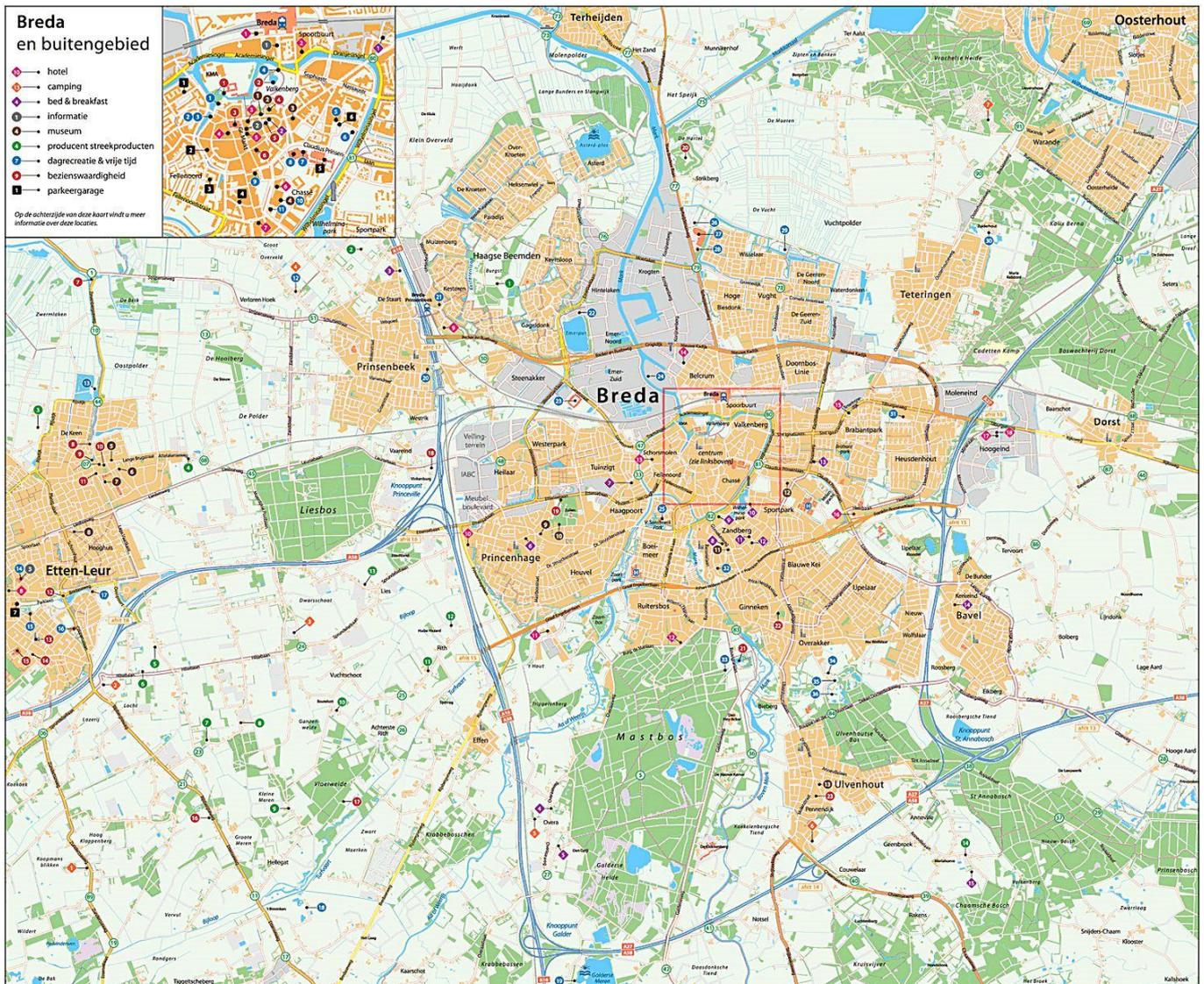
4837 Breda

The Netherlands

☎ Tel. +31.76.533.2203

✉ Email: [grigg.r@BUas.nl](mailto:grigg.r@BUas.nl)

## Breda Map



Click on the link to enlarge the map:

[http://www.orangemile.com/common/img\\_city\\_maps/breda-map-0.jpg](http://www.orangemile.com/common/img_city_maps/breda-map-0.jpg)

# CONFERENCE LOCATION

## How to Reach Breda

### By Plane

When arriving by plane in the Netherlands, you will either land at [Schiphol Airport](#) in Amsterdam, [Rotterdam - The Hague Airport](#), [Maastricht - Aachen Airport](#) or [Eindhoven Airport](#).

From [Schiphol Airport](#) you can take either a train or bus to Breda.

### By train

Schiphol Station is located directly below the airport. It only takes a couple of minutes to walk from Arrivals to Schiphol Plaza, where you can take the stairs, escalator or lift down to the platforms. At Schiphol airport you will be arriving at level G where you can make your way through passport/security control to the [NS \(Dutch National Railways\)](#) check-in to obtain your traintickets to Breda. Follow this [link](#) for some more train information from Schiphol Airport. For the NS train from **Schiphol to Breda** – if you take the Intercity Direct (the fast train) you need an extra ticket on top of the normal ticket called a toeslag (surcharge ticket).

### By Bus

Whatever your destination in the Netherlands, you can always reach it by bus. Buses leave from outside Schiphol Plaza, just a few minutes walk from Arrivals. Outside the arrival area of schiphol Airport you can take a [Connexxion](#) shuttle bus which will take you to Amsterdam where you can change to a bus to Breda. Follow this [link](#) for some more bus information from Shiphol Airport. For more information on the above use the [interactive Schiphol maps](#)

From [Rotterdam - The Hague Airport](#) you can take a metro and a train to Breda. The Citycenter and [Rotterdam Centraal](#) can be easily reached by public transportation. The buses stop right next to the arrival hall. Bus 33 takes you to the metro station Meijersplein. From Meijersplein you can travel within 10 minutes to the city centre of Rotterdam and [Rotterdam Centraal](#), where you can take a train to Breda.

From [Maastricht - Aachen Airport](#) you can take a bus and a train to Breda. Maastricht Aachen Airport is located at Vliegveldweg 90 at Maastricht Airport and can be reached by [Arriva](#) bus line 30 (Maastricht-Sittard). The bus calls in at the NS railway stations of Maastricht, Sittard and Beek-Elsloo, and at the Arriva railway station of Meerssen. At strong> [Maastricht Railway station](#) you can take a direct [train](#) to Breda.

From [Eindhoven Airport](#) you can take bus 400 and 401 to **Eindhoven Train Station**. From there you can take a train via **Den Haag Central** to **Breda**.

### By Rail

Breda has two [railway stations](#), [Breda](#) and [Breda-Prinsenbeek](#), providing connections with [Zuid-Holland](#) ([Dordrecht](#) - [Rotterdam](#) - [Den Haag](#)) and [Tilburg](#) - [Eindhoven](#), and from station Breda also to [Roosendaal](#) with connection to [Vlissingen](#) and [Antwerp](#). In addition, trains also head north from Breda to [Amsterdam](#) and east to [Den Bosch](#) - [Nijmegen](#). [Breda Oost railway station](#) will open after 2020. You can prepare your train journey using this [NS Link](#).

# CONFERENCE LOCATION

## By Coach and Bus

Buses are operated by [Arriva](#). There are four kinds of buses in Breda: citybuses, regional, [Bravodirect](#) and long-distance. Citybuses drive only within Breda (sub-12 numbers), regional buses provide connections to nearby towns and cities, [Bravodirect](#) buses are more luxurious buses driving to [Etten-Leur](#) and [Oosterhout](#) (31x and 32x-buses), and long-distance 'Brabantliners' connecting both [Gorinchem](#) and [Utrecht](#) with Breda (401, 402). There is also one [Zeelandish](#) busline (19) which connects Breda with [Hulst](#) and [Antwerp](#), operated by [Connexion](#). From further afield you can reach Breda by bus from [Eurolines](#).

## By Car

The [A16](#) is a motorway to the north to [Rotterdam](#) and towards the south to the Belgian border to [Antwerp](#). The [A27](#) is also a motorway to the north; It connects Breda with [Utrecht](#). Furthermore, The [A58](#) connects Breda with [Tilburg](#) and [Eindhoven](#).

## Useful Links

- [Breda Weather](#)
- [Breda Tourism and Travel](#)
- [Things to do in Breda](#)
- <http://www.orangesmile.com/travelguide/breda/index.htm>

## EUROSIS Forthcoming Conferences



### [ESM'2019](#)

October 28-30, 2019

[Universitat de les Illes Balears](#)

Palma de Mallorca, Spain



### [SCIFI-IT'2020](#)

March 23-25, 2020

De Krook

Ghent, Belgium



### [FOODSIM'2020](#)

April 5-9, 2020

[University of Leuven/Campus Ghent](#)

Ghent, Belgium



### [ISC'2020](#)

June 8-10, 2020

[UCD Dublin](#)

Dublin, Ireland



EUROSIS was borne out of discussions with the European Community to set up a new kind of Society, which would be project driven instead of driven by pure membership and conferences.

The aim of the new Society is to set up topic related Technical Committees which link directly to European Projects in the field of computer simulation and related areas and to act as a knowledge pool for future European Networks of Excellence, like MOSAIC.

If you would like to receive more information about EUROSIS, please contact

**Philippe Geril**  
**EUROSIS-ETI**  
**European Simulation Office**  
**Greenbridge Science Park**  
**Ghent University – Ostend Campus**  
**Wetenschapspark 1**  
**Plassendale 1**  
**B- 8400 Ostend**  
**Belgium**  
 **Tel: +32.59.255.330**  
 **Email: Philippe.Geril@eurosis.org**

Please send me info on EUROSIS:

Name:.....  
Address:.....  
.....  
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Telephone: .....  
Fax: .....  
Email:.....

# GAME-ON'2019 Registration Form

Please legibly print or type and fill out completely. (Check appropriate boxes where necessary)

FIRST NAME	LAST NAME	M.I.
COMPANY OR AFFILIATION		
Mailing address (tick one): <input type="checkbox"/> HOME <input type="checkbox"/> BUSINESS		
STREET		
CITY		
ZIPCODE	COUNTRY	
TELEPHONE	FAX	
E-MAIL		
DATE	SIGNATURE	
1. <input type="checkbox"/> <b>EUROSIS member € 565 Member Number:</b> _____		€ _____
2. <input type="checkbox"/> <b>Members of Sponsor or Affiliate Society € 565</b>		€ _____
3. <input type="checkbox"/> <b>Non-Member Participant € 605</b>		€ _____
4. <input type="checkbox"/> <b>Students, <u>who are not authors</u> but who wish to attend the conference, or <b>ONE DAY PARTICIPANTS</b> pay: € 450</b>		€ _____
(Above registration fees include, one copy of the PROCEEDINGS, all midday meals, cocktail, refreshments, coffees and social program,) One Day Participants and Non-Author Students cannot participate in the conference dinner.		
5. <input type="checkbox"/> <b>Conference Dinner Ticket for Companion € 90</b> <input type="checkbox"/> <b>Lunch Ticket for Companion € 25/day</b>		€ _____
6. <input type="checkbox"/> <b>Extra Conference Proceedings € 40 Cash and Carry</b>		€ _____
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<b>TOTAL AMOUNT DUE</b>		€ _____
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