



Newsletter May 2015

Welcome to the second edition of the HARMONISE Newsletter – if you missed the first newsletter you can read it [here](#). For this edition we have moved to a new format to increase accessibility of the material – we will continue to optimise the format going forward! Please forward this newsletter to your contacts who may be interested in the HARMONISE Project and ask them to sign up for future issues via the [Newsletter mailing list link](#) here or via the button below.

This edition introduces our new social media channels – please join us on [LinkedIn](#) and [Twitter](#) to keep up to date with our activities and find out about opportunities for you to get involved!

We have some interesting features this month:

- An update on our project outputs to date – please [follow the link](#) to get up to speed with the ongoing work and emerging findings
- This month we have an [interview with Dr John Lyness](#), a leading academic in the fields of Structural and Civil Engineering with a strong interest in the related field of Urban Resilience. John has research interests in several European Security Projects and is closely involved with the HARMONISE Project. This month he gives us an Engineers Viewpoint on Urban Resilience!

We hope you enjoy our material and look forward to hearing from you via our social media channels – remember to sign up on the links below!

Thanks for reading - see you next month!

Get in Touch

Phone: +44 (0)2890 366507  +44
(0)2890 366507

Email: pt.davis@ulster.ac.uk

[New Mailing List Signup](#)



[Twitter](#)

[LinkedIn](#)

[Website](#)

HARMONISE in context

Urban areas have traditionally been viewed as ‘safe havens’ where basic human needs, such as shelter, can be provided. Increasingly, urban areas are being viewed as ‘epicentres’ of potential human and economic loss, as high profile examples of natural and man-made disasters have manifested themselves on urban infrastructure and communities, which have often proved to be ill prepared.

Against this manifest risk there is a growing requirement to examine the ‘resilience’ of existing urban areas and infrastructure. Of course, most infrastructure is well established, having been designed and delivered against a different set of challenges. Nevertheless, there is a high degree of focus on new urban infrastructure provision – whilst the mistakes of the past may be difficult to put right, the prospect of repeating them, or failing to adopt best practice (or better) solutions moving forward is a missed opportunity with far reaching consequences for human health, economic wellbeing and political capital.

The communities of inhabitants, their elected representatives and an array of involved stakeholders have recognised and addressed this to varying degrees. There is recognition that whilst sentiment has firmly shifted towards a focus on such ‘Urban Resilience’, structures to achieve this in a coherent, optimal fashion have yet to become well established. Many activities which can and do contribute to an urban resilience ‘effort’ currently (and concurrently) occur, within disciplinary ‘silos’ and are communicated to sub sets of the wider relevant policy, design, delivery and operational ‘communities’ (who together are responsible for achieving the aim of resilient urban areas), via a veritable ‘babel’ of discipline specific jargon and terminology – a unified concept of Urban Resilience has yet to fully emerge.

The HARMONISE Project seeks to address this perceived weakness in process and performance, by providing a holistic urban resilience 'platform' and an associated suite of 'tools' which will seek to drive 'sense making' of the urban resilience challenge, facilitate holistic, consensual resilience policy making and drive optimisation in the design, delivery and operation of large scale urban infrastructure.

In achieving this aim the HARMONISE Project involves a full appreciation of the resilience context and 'landscape' (generally and in the Case Study locations), a clear focus and understanding of what it will seek to achieve and excellent science solutions which meet the project aims and the requirements of its target user groups.

HARMONISE has begun to address this deficit with the completion of a number of project deliverables –

- a [thematic review](#)
- a [stakeholder engagement exercise](#)
- and an urban infrastructure [gap analysis](#)

Together these documents have helped set the context for the HARMONISE Platform and Tool development phase currently ongoing.

The project to date has addressed the following issues:

- Addressing the questions - what is urban resilience and how does the meaning and use of urban resilience differ?
 - What is meant by urban resilience, how and why it has emerged in urban policy and what urban resilience constitutes
- Analysis of the 'resilience turn' in urban policy
 - The emergence of urban resilience policy and practice in different nation states highlighting the importance of local context in understanding its implementation and impact
- Identifying successive 'waves' of security-driven urban resilience
- Establishing key pillars of urban resilience approaches
- European Resilience Policy Context
- The key approaches to enhancing resilience and the impacts and implications these have for civil society, business and government Structural robustness and resistance
 - Design and urban planning interventions
 - City-wide approaches

- Mediating urban resilience through an appreciation that 'context matters'
- Social and local approaches
- Aesthetic acceptability
- Making the business case for urban resilience
- The need for a proportionate approach to urban resilience
- Challenges, Emerging Gaps and Trends
- Scope for HARMONISE
 - An outline of the emerging gaps in the current state-of-the-art and the basis this provides for the HARMONISE project.

Please follow the links to the documents and share your views with us!

HARMONISE Interview Series

Dr John Lyness is a Chartered Civil Engineer, Structural Engineer and Mathematician. He has experience of the static and dynamic analysis of structures, the design of building and civil engineering structures and the construction process. He has experience of modelling and risk assessment of flows in rivers and drainage networks. He also has extensive experience in the use of finite difference methods and finite element methods for engineering problems. This month he gives us his insights, from a career which has taken him from the immediate resilience needs of the offshore oil rig to the less obvious yet potentially more crucial arena of Eurocode compliance

• Tell me how you first got involved in with the resilience field?

First, working in offshore jacket design, when seasonal weather windows permitted structural inspections that revealed signs of structural damage. When these were reported there was a short time interval when the necessary repairs were designed and analysed and then organised and enacted on site. Repair designs were DNV compliant and required local and whole structure analyses. These timely inspections, interventions and code compliances ensured the resilience of the structure and its continued economic benefit.

•What has surprised you most about working in the resilience field?

How advanced the technology is in earthquake engineering, especially that emerging from the USA West Coast.

•What do you find most challenging about the resilience field?

Probably the development of formal, generic, appraisal approaches for structures, infrastructure networks, systems, elements etc. This will enable rational comparisons of designs, retrofitting measures and the effects of damage on human safety and societal recovery.

•What's the best/worst thing to happen since you started your career in the resilience

field?

The discovery of the attempts, to quantify descriptors, such as Critical Infrastructure, Vulnerability, Robustness and Resilience.

•If you could change one thing about urban resilience - what would it be?

I would like to see the widespread use of IT to provide urban built environment and infrastructure, graphical, safety, egress, vulnerability etc information on Android Tablets. These could be used to collect data, update data and give post event emergency recovery protocols and record damage.

•What do you wish other people knew about urban resilience?

Perhaps most are unaware of the existing emergency response committees and topical hazards.

•Tell me about some interesting people you've met while working in resilience?

My first team leader was Pat Godfrey of Halcrow Offshore. I first got an idea of resilience while working with him on the assessment of fatigue lives of vulnerable welds in offshore structures. He went on to write a book on Risk Assessment promoting the systems approach. He is now a Professor in the Civil Engineering Department at Bristol University.

•What's your personal philosophy on what should be done about urban resilience?

It is an uncomfortable truth that “man-made and natural hazards” exist and dealing with them is within the ambit of engineers, building professionals, local and national governments.

The public is concerned because of safety, financial consequences, inconvenience, heritage and the natural environment. However they, perhaps, require timely information about resilience, say, only in proportion to the hazard risk. For instance, only in times of a flood hazard, civil disturbance.

However, it is prudent to enact more public “rehearsals” in urban areas in a similar manner to Fire Evacuations, such as public Flood Emergencies and public area evacuations.

•Tell me about someone who has influenced the resilience field?

I have read several papers by Michel Bruneau of the Multidisciplinary Centre for Earthquake Engineering at the University of New York at Buffalo, who is good at articulating practical resilience measures, for example the Resilience 4Rs - Robustness, Redundancy, Resourcefulness, Rapidity

•What might (someone) be surprised to know about you?

I have a working knowledge of the Irish language!

•The interest in urban resilience seems to be growing. Why do you think that is?

Following 9/11 and Hurricane Katrina the US Federal Emergency Management Agency was formed. This agency has drawn together and funded extensive research and information programmes. This has promoted the development of IT tools and the dissemination of assessable topical information on urban resilience. Urban resilience is also being promoted in the developing world through United Nations initiatives.

•What do you think will change about urban resilience over the next five years?

The adoption of some very useful IT, the further promotion of public exercises/rehearsals and the extension of Urban Resilience strategies to the developing world.

•If you weren't doing your current role, what would you be doing instead, or what would your life be like?

Possibly involved in consultancy or following interests in ancient coins!!

•As an (engineer / your discipline), what sorts of trends do you see?

I think that we are close to the emergence of “super élite” qualifications in engineering. That is, it will be possible, say, to take modules from Berkeley in Earthquake Engineering, Cambridge in Mechanics, Delft in Flood Hydraulics etc. This will be competitively driven by the job market, clients and competition from Eastern Europe and Asia.

•How would (someone) describe you?

Not too busy to talk!!

•What do you do when you aren't working?

During holidays, weekends and after 5.00pm I usually do not work!

My other primary occupations/interests are Irish and local history.

I am also a Director of a charity and a Committee member and Treasurer of All Souls' Church, NSPCI.

•What else can you tell me about your role?

I suppose that I was fortunate to be computer “literate” early in my career and I have witnessed the pervasiveness of IT in engineering design, construction and education. But first principles, assumptions, appropriate choices for loadings and models will always be important, no matter, what the model, as will be the capacity to rapidly check/assess realistic stress resultants and deflections.

HARMONISE; EU FP7 project no. 31201



Copyright © 2016 HARMONISE, All rights reserved.

You are receiving this email because you expressed an interest in receiving updates about the HARMONISE FP7 Project

Our mailing address is:

HARMONISE

Ulster University

Newtownabbey

Newtownabbey, Antrim Bt370qb

United Kingdom

[Add us to your address book](#)

[unsubscribe from this list](#)

[update subscription preferences](#)



You'll need Skype Credit