KAAU – KNOWLEDGE ALLIANCE FOR ADVANCED URBANISM
MANUEL GAUSA

I. ADVANCED LOGIC: KEY WORDS

In the last three years the KAAU project has built a relational platform between universities (research units) and entrepreneurial industry (dynamic companies), derived from Erasmus Knowledge Alliances which has aimed to encourage exchange, training and dissemination spaces related to advanced knowledge and innovation in the fields of urban planning, sustainable development and new technologies.

The approach to the development of a new Advanced Urbanism paradigm comes from the innovatory processing combination –in the last two decades– between the terms INFORMATION and INTERACTION, understood in all its dimensions, spatial environmental, social, technological and cultural.

In 2001 the Diccionario Metápolis de la Arquitectura Avanzada appeared, later revised and expanded in 2003 in its English version (The Metapolis Dictionary of Advanced Architecture, Actar-Barcelona 2003).

It was possibly one of the first publications in which the term Advanced was coined to define the emergence of a new conceptual logic (spatial, urban and architectural) built beyond modern paradigms and their postmodern change. A new logic, but also a new thought and a new cultural and interpretive framework of research, projection and production.

The real definition of the term "Advanced Architecture" was included in one of its first meanings, by way of initial statement:

1– Advanced architecture (or urbanism) is within the digital society what the modern architecture was within the industrial society: an architecture bound up today with interchange, interaction and information; with the capacity for displacement, adaptation and modification: with the dynamic evolution of processes and their associated spatial definition

2– Advanced architecture (or urbanism) is an architecture with a humanist bent, made by and for humankind. It is also positivist, with faith in the progress capacity to introduce qualitative and positive energy into an environment qualified by the optimisation of those instruments, means and technologies developed in the conditions of our informational time.

3– Advanced architecture (or urbanism) opts for a state of qualitative change produced through an effective combination of heterogeneous data records, flows and bits of information.
In an increasing complex reality, it seeks to work with that complexity: not to limit its effects but rather to multiply its potentials.

4– Accepting a greater degree of adaptation, flexibility and mixedness in its responsive actions. Creating more plural – and complex– scenarios in which combine interaction, innovation and information.

5– Advanced architecture (or urbanism) occurs, in fact, as an outcome of a direct process of interchange; in synergy and flexible interaction between spaces, environments, citizens and contexts (...). Advanced architecture is a reactive and reactivating architecture that is strives to react with reality in order to re-stimulate and optimise it. Innovating it: ad once re-informing it and recycling it. Exchanging information with and within it.

6– Advanced architecture (or urbanism) talks about a more multi-relational approach that does not necessarily requires hi-tech means, but rather supposes a new degree of high interactions (without formal or disciplinary prejudices or predeterminations) between conditions, situations, solicitations and information(s): a strategic and dynamic acting in coherency between means and ends, intentional data and concrete spaces, real-virtual relations and well oriented scenarios.
Between "intelligent cities" and "smart citizens"; but also between resilient landscapes and connected people; between more "empathic" systems and "responsive/ responsible" behaviours.

The adoption of the term "Advanced", already used at the time to qualify the research deepening in higher studies (advanced studies) or used in some disciplines (economy, technology, geography, etc.) to define a stage with a high degree of technological development (but also to define that "which is

distinguished by its audacity or novelty in the arts, literature, thought, politics, etc.") did not cease to be controversial, although also clearly intentional, the era of qualifying a new procedural stage related to the information society. Possibly the term Informational Architecture (and / or Informational Logic) would have resulted in this sense more precise and explicit, although also more literal, when it comes to adjective a new open, complex, reactive, interactive, transversal or digital thought.

II. ADVANCED URBANISM: INNOVATIVE OUTPUTS

The development of a new Advanced Urbanism paradigm refers to the innovatory processing combination –in the last two decades– between the terms INFORMATION and INTERACTION, understood in all its dimensions, spatial environmental, social, technological and cultural.

In this sense if we understand the new logics –associated to a new Advanced Urbanism– in relation with the challenges of a new informational era –and the capacity, in this one, to multiply the interactions between conditions and information(s)– we need to enlarge the term "information", understood not only as a data-parameter or a data-indicator but as a more expanded concept associated to other assimilated key-terms (complex programs, simultaneous solicitations, environmental patterns, but also messages, identities, matters, cultures, types, behaviours, senses, networks, natures, morphologies and metabolic contexts) able to be combined in the new frameworks, instrumental tools and resilient (urban) systems.

Advanced Urbanism is the digital and computational increasing capacity to process, measure, combine and optimise data in new anti-typological and open systemic approaches (integral and integrative) associated to a new Informational Urbanism.

A new urbanism linked with a new urban intelligence understood as a new relational (and informational) capacity (reactive, responsive and strategic) able to process together urban data and visions in a new integrative and qualitative way: not only as a multi-tool-urbanism linked with the new technologies (Smart) but also an Empathic Urbanism associate to new analytic, synthetic (in contemporary) and multi-scalar researches within the fields of urban prospection, innovative expression (and representation), environmental scope, social integration, citizens relationships and bottom-up network processes.

In particular, this new urbanism has the capacity to launch new strategic and integrative gazes (and methodologies) open to explore complex and dynamic territories.

The different approaches, crossed experiences, shared researches and – in short – diversified interpretations of this new cultural and multi-disciplinary logic, talk about a new networked framework of explorations where the KAAU project must be included as a referential and dynamic platform.

The synthesis of this new and innovative methodological urban approach can be based in 3 lines of action (and research), diverse but interconnected in-between them. These lines are investigating not only the different changes of paradigms but also applications and experiment outputs:

A– Digital (& data-processing) innovation
(REACTIVE PROCESSES & ADAPTATIVE RECORD-DESIGNS > MAPPING & MANAGING INFORMATIONAL RESPONSIVE FIELDS)

The decisive importance of the new digital technologies as a key factor associated to a new reactive/responsive approach to our contexts, spaces and environments define a main – and substantial– line of action implicated with a sensible and parametric formulation (and optimisation) of our contextual field answers.

Changes of paradigms: from fixed formalisations to dynamic and evolutionary formulations; from guideline design to cross-data reactive scenarios.

Frameworks: digital technologies and dynamic open-processes

Tools: digital software – multilayer & informational (functional and environmental) processes

Outputs > real-time open-processes > data-visualisation, data-orientation, data-applications > open reactive designs
A new more precise and optimized holistic recording and spatial answering of data-information

B– Environmental, territorial (& eco-systemic) innovation (INTEGRATED ECO-NETWORKS & ORIENTED OPEN SYSTEMS > PLANNING & LANDING INFORMATIONAL "ENDO" AND "EXO" STRUCTURES)

Changes of paradigms: from land-uses planning to land-networked strategies; from taxonomic analysis to compressive-comprehensive synthesis.

Frameworks: complex structures and integrative urban and territorial eco and infra networked-systems

Tools: multilayer informational programs & networks – relational & transversal land-structures

Outputs > strategic scenarios > operational systems, strategic concepts > integrated operational systems and landscapes.
A new more strategic and open-oriented conceptualisation (and structuration) of systemic (and contextual) multi-scalar information

C– Social (& bottom-up creating) innovation (SOCIAL ACTIONS & DIRECT COLLECTIVE OPERATIONS > SOCIALIZING AND DESIGNING NEW COMMON PROCESSES AND IMAGINARIES)

The interest to depth in the new emergent dynamics of a new direct activism liked with a new social and informational interpretation of our contemporary collective behaviours (and spaces of relation and interaction) guides a third line of proposals not strange to a new poetic of the urban life.

Changes of paradigms: from participation to co-production; from universal (and connected) collectives to new differential (and interconnected) collectivities.

Frameworks: social sharing dynamics and new common open behaviours

Tools: relational frameworks and structures – interactive experiences > active public spaces & spatial real-time devices and use(r)s platforms.

Outputs > collective actions > interactive interfaces, relational programs & imaginaries
A new more empathic and co-productive and shared conception of a new variable, adaptable and operational (active and activist at time) collective (because co-lectured) intelligence.

These three main lines of research, experimentation, approach and orientation are not separated, compared or divided but, on the contrary, they are conforming today a basic framework of vectors able to be combined and necessarily crossed in the new global urban processes and challenges of renovation.

III– ADVANCED URBAN CHALLENGES: CONCEPTUAL KEYS

In fact, as we have signified, in the last two decades our most important environments of exchange and coexistence – cities – have undergone radical changes in their definition (driving and induce) qualitatively the new urban developments, especially in Europe, combining advanced technology with new relational models, spatial and social strategies, innovative and sustainable at the same time: susceptible to combine "sensing" and "sensitive" logics.

The old paradigms of rigid urban architectural disciplines, based on old planning prescriptions –compositional or functional, formal and objectual, zoning and/ or managing formulas – have shown their limitations confronted to a progressively and unpredictable, complex and changing developments, related with the increasing ability to process, exchange (and transform) information – an increasingly simultaneous and(dis)located information– both geographical and social, spatial and temporal level.

These challenges proclaim a new dynamic and reactive condition of the city able to encourage a best recording, managing and programming of data, messages, connections and requests – variable and changing – implicate with urban mobility itself, energy efficiency, social economy, and the new public space, the collective self-organization, the environmental response, etc.

Such dynamic appeal to a new "intelligent" dimension of the city and its interactive and informational projection: a dimension related with the rise of new technologies and their progressive network development.

At the same time, this informational condition, progressively open and variable, must be combined with the ability to create "horizons of certainty," shared criteria of action, visions and forward-looking strategies capable of orienting (urban and territorial, real and virtual), their configuration (complex, elastic and irregular) and their approach (multi-layer, multi-scalar and multi-informational).

Such combination "information + vision" (processing capacity and prospective, strategic and relational capacity) lacks today of suitable reference areas and ambitious programs of inter-disciplinary exchange.

The next generation of urban planners will be challenged to find solutions to complex problems related to population, energy, environment, food, water, security, housing, health, and transportation.

Its challenge will be to provide new scenarios no longer productive or reproductive but "co-productive", capable of generating open and resilient models, orientated and co-participated at a time, from which address:

– The new complex recognition and expression of the contemporary city and its many informational levels (data-maps and intentional-maps)

Sensors and sensibilities.
City–Senses and sens(i)vilities.
Responsive contexts and responsable societies.
Precise DATAS & holistic VISIONS.

– The new geo-urban articulations of the region-city and their translation in new "eco", "intra" and "infra" structural networks of exchange.
– The new sustainable agendas (energetic (self)sufficiency, intelligent management of resources, etc.) and their translation into new types of eco-environments.
– The new demands of urban re-naturalization and recycling, rational land-use and "inward growth".
– The new active dimension of landscape (and public space) as operational, relational and co-productive space at a time.
– The new capacities to mix uses, functions and programs in a new kind of tri-dimensional built repertories and hybrid typologies and living-exchanging habitats.
– The increase in telecommunication of real-time data and its relationship with a new type of smart-citizens more autonomous and incidents in urban self-organization itself.
– The new phenomena of co-participation and transformation "bottom-up" of spaces and collective scenarios, more or less reversible.
– The new technological –and digital– capabilities and their translation into new processes of intelligent fabrication and construction and the research of new materials, more reagents and responsive in/to medium.

The notion of ADVANCED URBANISM wants to contribute to steer - from the exchange of researches and explorations- such multiple approaches to the complex conditions of the city in the new century.

Approaches capable of combining data processing, modelling of variables, integrated mapping records (analytical and synthetic, relational and structural), economy of resources, new urban entrepreneurships and innovative governances, in a new type of transversal urban thought, strategic, creative and interactive.
With the aim of combining "data" and "visions" in/for the city – information and prospection: sense, sensuousness and sensibility– in a new type of more efficient and relational habitats: informational and convivial, at the same time.