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Abstracts
NEST, Readapting a Domestic Landscape

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NEST (natural/nano Energy System Technology) project design refocus in a revalidation to the exposition fixed in 1972 in MOMA, New York by Emilio Ambasz. This exposition give us a twist radical orientation proposing in that particular time new paths concerning ecological perspectives, confronting the standard mainstream, and proposing new systems to live. Design approach needs to recover these symptoms melted in time, proposing adaptable systems to different cultures and meaning in a cultural twist paradigm. For that motive is our intention to readapt thoughts and process of thinking that was intentionally collapsed in a past domestic landscape.

The NEST is a roller blind common structure that matches nano-structures and a computer system: nano-batteries and capacitors for storing, uploading, use and recharge; photovoltaic thin-film printed/coated in textile foldable layer shadow for capture energy (exterior); thin-film screen layer embedded in the same textile structure (interior) for image projection; induction wireless recharger; batteries common recharger for conventional batteries; dc/dc energy ports for recharge small/medium electronic devices. NEST program as being part of a generation of household systemic structures where several multi-functions which are enclosed to traditional electronic appliances will act in future as interface scenarios into a complex structure.

It is composed by three chunks that constitute the whole system and other external parts that can suspend the object in the interior of living environment. This overall invention integrates several other functions dematerializing a products/objects that are normally associated to the living environment (video/dvd recorders, external discs, digital passepartout, TV, converters/adapters DC/AC (rechargers for low/medium power electronic applications), home-cinema (data-shows) plus reducing the dependency of energy for interior thermal heating.

There is today the need to explore old concepts and present sustainable paths to develop ‘new’ environments (Mcdonough; Manzini), furthermore the application of new high-technologies that promote eco-efficiency and subsequent dematerialization (Goedkoop; Meijkamp), including the use of alternative energies (kan, 2006), plus the promotion of social response and do-it-yourselfer procedures (Morris; Papanek; Mari; Rammakers) suggest radical transformation in artifacts, scripts and objects.

NEST recognizes Man and his total dependency on image (Virilio) and energy in this compulsive high tech diffusion of information in distance, revealing extreme transformations between the balance with men and nature, space and time. Also felt that there is a significant digital immateriality and the way it will substitute the notion of morphological living space, enlightening a virtual representation of pixel realities of spaces, places and forms: the cyborg (Gibson), the ciberflâneur (Mitchell), the digital nomad (Rammler), all this concepts indeed provocative in the form that they transfer our senses to a new reality which is being formed, structured into fluidity, flexibility and mobility assumptions (De Kerchove; Castells; Bauman).

NEST tries to articulate intangible products and services encrypting a ‘hall’ family digital medium artifact bound for prosumer participation. There is the need to generate democracy objects (Dewey) proposing self-sufficiency for micro-production adaptable to every scales of living including buildings (Rogers).

Aesthetic Design for Minimum Weight: New Approaches for Sustainable Vehicle Development

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The transport sector is one of the major originators of climate relevant emissions: Still depending on oil by 98% this sector dissipates 30% of the energy totally consumed in the EU and also causes almost one third of CO2 emissions [1]. However, already by 2020 another demand growth of around 32% in passenger kilometres and 69% in tonne kilometres for freight is anticipated (EU figures only.) Against this background, mitigating negative impacts is an ambitious challenge as the increasing use of the road system has the potential to negate technical improvements in all relevant fields [2], [3]. To counteract this, further significant research efforts are required.

In this context, a better coordination of aesthetic design and engineering promises access to so far unconsidered energy saving potential -notably in the field of lightweight vehicle design. Here, exploration of transdisciplinary synergies can further reduce accelerated mass and therewith