



# Requirements for user centricity

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**BIC Discussion Paper**

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## Introduction

With the growth of Internet, one of the most sensitive issues of our “always connected” society is the security of electronic data. The issue concerns everyone: individuals, corporations and public institutions. At the Network and Information Security Management: research ideas workshop held on 22nd September 2011, one of the main recommendations was there is a need to examine human oriented security solutions as the generation of users is changing as they are born and raised with ICT and studies show they would be more open to use security solutions and the security designers need to listen and adapt their solutions according. At the workshop, there were discussions about the level of evidence about young people caring more about security and privacy. There is mainly anecdotal evidence on this that while some users will ignore these issues, there are considerable levels of users that care about their security and privacy. It was agreed that researchers should not take as a starting point that young people don't care about security and privacy. Instead, all of the points of view should be studied from the sociological perspectives and involve the right stakeholders in our research projects.

Security management should be more accessible to all kind of users and especially non-security experts evolving towards a more human oriented security management vision. To address today's security issues, we need to: 1) move from the traditional technology-only oriented design of security solutions towards user-centric security management and 2) bring together experts from psychology, social science, economics, legal, technologists and security experts to address security and privacy from a user point of view and put her/him at the heart of problem.

From an international point of view, we need:

- Collaboration between security experts and experts from other disciplines (psychology, social science, etc.) and from different countries, in addition to collaboration with international government institutions.
- Organisation of multidisciplinary and international workshops targeting wide public.
- Set up of multidisciplinary and international working groups in targeted countries.
- Collaboration with standardization organisations.

User centricity for trust, privacy and security (TPS) means providing security solutions that are oriented towards the users. Nowadays, we cannot ignore the fact that in order to improve the use of security and strengthen it, we need to involve the point of view of the end-users to take into account the real needs of the citizens and stop designing security solutions from the point of view of security experts only.

## Functional needs

The design of user centric TPS solutions implies considering the: many different kinds of users, different

generations of users, different cultures and different societal values.

Taking into account the Human aspect is not sufficient: we need also to design solutions that are compliant with the law of the country where those solutions are to be deployed (for example in Europe, solutions will have to be compliant with the EU Data protection regulation).

To move towards a user-centric approach, we need:

- Strong collaboration between different actors and experts from different disciplines (psychologists, sociologists, economists, legal, government, education, ICT and security) to take into account the cultural heritage/history, societal & individual values, psychological characteristics, technology, laws and regulations, etc.
- Creation of Living labs for trust, privacy and security to drive the design and development of security solutions.
- Education of the existing users and preparation of the next generation of users to raise awareness regarding trust, privacy and security. Education of users requires an education program strategy based on shared values: building roadmaps for stakeholders in education and curriculum for primary and high schools.

## Required action

From an international point of view, different actions are required:

Collaboration with:

- International security experts having a user-centric approach regarding trust, privacy and security (Brazil, India, South Africa, Canada, USA, France, etc.)
- International experts from different disciplines to take into account the differences in terms of culture, laws, etc.
- Collaboration with international standardization organisations such as W3C, ETSI, IETF, etc.

These collaborations can start through:

- Creation of multidisciplinary working groups in each targeted country (right experts from each discipline).
- Organization of international multidisciplinary workshops in targeted countries (involving wider public).

## Recommendation

In conclusion, the Human-oriented/citizen approaches for Trust, Privacy and Security Working Group must allow actions to finally start changing the way in designing security solutions in order to move towards a more effective user centric approach for Trust, Privacy and Security.

A full presentation can be found at <http://www.bic-trust.eu/files/2011/12/slides5.pdf>



About the Author

**Dr. Karima Boudaoud** is Assistant Professor at the University of Nice Sophia Antipolis. She had obtained her PhD. degree in Computer Sciences from Ecole Polytechnique Fédérale de Lausanne (EPFL) and had received her M.Sc in Computer Sciences from the University of Versailles Saint Quentin-en Yvelines (UVSQ). She has participated in several research projects in the area of Networks and Services Security funded by the European Commission (IST-FP6 research programme), CNRS-INRIA-DGA and Fond National Suisse. She has served in several TPC and OC of several national and international (IEEE/IFIP or others) conferences and workshops (IM, WWW, ICC, NOMS, etc.). Her main research interest is Security management but a security management oriented towards the User and her previous research field was intrusion detection using multi-agent system.