

# A Nation-wide ePortfolio

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# **A NATION-WIDE E-PORTFOLIO: REFLECTIONS ON AMBITIONS AND EXPERIENCES IN THE NETHERLANDS**

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## **1 Introduction**

In the Netherlands e-portfolio adoption has been fostered by a growing focus on competence based education and self-regulated learning (Aalderink & Veugelers, 2006; Rubens, 2007). In recent years, nationwide adoption of e-portfolios as an instrument to assess and stimulate personal professional development, has gained considerable attention in the Netherlands, because it is expected to enhance labour market participation and mobility. The year 2008 in particular stands out as a year of significant boosts for nation wide adoption of e-portfolios. In that year two important government advisory committees on employment and the labour market recommended nationwide adoption of e-portfolios as an instrument to assess and stimulate personal professional development and to increase mobility (Commissie\_Arbeidsparticipatie, 2008; Commissie\_De\_Vries, 2008). In that same year the Netherlands Institute for Normalisation (NEN, 2009) published the first version of a National Technical Agreement (NTA 2035) for the exchange of e-portfolios, henceforth called E-portfolio NL or national standard.

Despite the fact that several providers of e-portfolio software have come to support the NTA, i.e. enable imports and exports based on this exchange format, actual deployment of the specification appears to be limited. While portfolios are widely used in Dutch higher education, especially in the universities of Applied Sciences, this is supported by a variety of systems (Rubens, 2007), none of which fully supports E-portfolio NL.

Using INTEGRATE, a generic instrument developed to assess strategies for the adoption of standards, an analysis was made to identify appropriate strategies for the adoption of E-portfolio NL (Lankhorst & Krukkert, 2010). This analysis resulted in the conclusion that the e-portfolio standard requires a strategy that starts with large companies and public employment agencies. Though one of the advisory committees mentioned above was instigated by the Algemene Bond Uitzendorganisaties (General Union of Temporary Employment Agencies), large scale adoption has not been realised yet.

Meanwhile however, a sense of urgency at the governmental level, most notably regional governmental level, has inspired several projects which acknowledge and seek to draw on the benefits of the NTA 2035. One of these projects is the Service Centre Lifelong Learning Limburg (SC4L, 2011) which brings together a number of stakeholders in the region: employers (from small enterprises to large companies), employment agencies, and educational providers ranging from Vocational Education and Training to University level, with the aim to develop a Service Centre that facilitates assessment of prior learning and provision of blended lifelong learning in relation to regional labour market needs and developments. In the cooperation between the various stakeholders the exchange of e-portfolio information is an important issue that can be addressed using the national standard. Related work in the US and UK focussing on a nation- or state-wide portfolio, was either not based on a standard, e.g. the eFolio Minnesota and Careers Wales projects (Cambridge, 2008, 2010; Careers\_Wales\_Association, 2011), or limited to the exchange of e-portfolio information between educational providers, e.g. the EPICS and RIPPLL projects (A.P. Horner, 2009; A. P. Horner et al., 2006; Kingston & Smallwood, 2007).

This paper briefly outlines the E-portfolio NL specification (section 2) before taking a closer look at the INTEGRATE study and the current state of affairs (section 3). Given the current state, section 4 outlines the approach adopted in the SC4L project.

## 2 E-portfolio NL

E-portfolio NL defines e-portfolio as “a set of purposefully assembled digital artefacts describing a person’s efforts, development and achievements in learning and/or work.” (NEN, 2009, p. 6, translated). In fact the agreement constitutes an application profile of (among others) the IMS ePortfolio specification and distinguishes between on the one hand Personal Information, e.g. Identification, Goals, Competences, and on the other hand Results, e.g. Activities, Products, Evaluations, and Reflections (Fig.1).

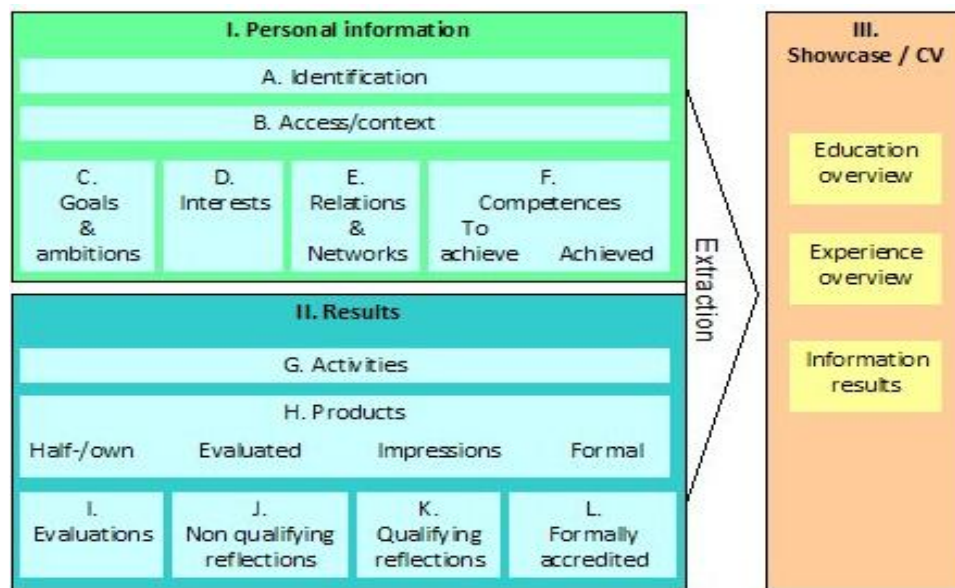


Figure 1. E-portfolio NL

The Dutch organisation Kennisnet (*Knowledge-net*) took the lead in developing and testing the application profile, which gained the formal status of national technical agreement when it was published by the NEN Learning Technology Standards Committee, and is now about to gain the status of “Norm” (Berg & Thuss, 2011), meaning that it is going to be a *de jure* standard (Hodgins et al., 2003). Alongside work on the technical agreement, Kennisnet published ten principles to enhance interoperability and the adoption of the e-portfolio standard (Van der Zalm, 2007), including “Ownership of the e-portfolio lies with the individual” (cf. Heinrich, 2008), “An e-portfolio must support usage across domains”, “Taking the perspective of lifelong learning, organisations that work with e-portfolios are chain-partners both towards the individual and towards one another”, and “A chain-partner must store all information provided by the individual and keep it readily available for further transport or sharing as indicated by the individual” (p. 8-9). More recently, parties involved in the development of the standard have engaged in a workshop to identify barriers and means to further stimulate adoption of the standard, using the adoption-instrument INTEGRATE, a generic tool which supports stakeholders to choose from a number of ways to influence adoption of an interoperability standard in a network of relevant parties (Lankhorst, Oude Luttighuis, Krukkert, Verhoosel, & Lammers, 2010). Though the workshop also helped identify some shortcomings of the instrument, the report offers insights in the variety of stakeholders involved and the ways they may influence adoption.

## 3 Adoption acceleration

The INTEGRATE instrument uses a number of parameters to establish a general measure of the effort it will require to accomplish adoption of an interoperability solution. These parameters are: the

number of stakeholders (in this case: large), the heterogeneity of the stakeholders (great), the type/complexity of interactions (average), openness (complete), usability (average), simplicity (average), and generalness (great) of the solution. Combining and contrasting these values a general “Fitness for adoption” measure is calculated which in the case of E-portfolio NL is “Good” (Lankhorst & Krukkert, 2010).

Moreover, a subsequent stakeholder analysis makes it clear that for many stakeholders a positive business case is presumed and that two types of stakeholders have both a positive business case and first mover advantage: employment agencies (both public and private) and software developers aiming at e-portfolio storage. However, stakeholder groups are not equal in size and the stakes of various groups vary in weight. The group of individual e-portfolio users and SMEs for instance, are large in number and carrying strong weights, but for them the business case is neutral. This leads the workshop to conclude that the network at large does not represent a strong force in favour of adoption of the standard.

Further analysis of business case dependencies lead to the identification of two main parties which strongly influence many parties involved, i.e. large companies and employment agencies (most notably public employment agencies). Considering means to stimulate adoption in relation to stakeholders’ chances of adoption, the report identifies means in the realm of communication (engage, influence), finance (fund, unburden), and legislation (entrust, require). Taking all the previous parameters into account the report concludes that in the case of E-portfolio NL the adoption strategy should start with large companies and public employment agencies, as they have the biggest influence, and that clearly there is a role to play for the government for instance by stimulating large companies through financial incentives and/or requiring public employment agencies to adopt the standard, through legislation if necessary.

However, as things stand, public employment agencies already take an active interest in a number of initiatives that aim to enhance adoption of E-portfolio NL, such as the Service Centre for Lifelong Learning project. This seems in line with the INTEGRATE analysis identifying employment agencies as one of two stakeholder groups with both a positive business case and a first mover advantage. As to the second group, software developers focussing on e-portfolio storage, a plugfest was organised in collaboration with the NEN on April 19<sup>th</sup> 2001, in order to establish developments within this group. The plugfest brought together seven providers (out of an estimated total of twenty e-portfolio software providers operating on the Dutch market) which have developed or are developing e-portfolio software in alignment with E-portfolio NL. Despite the fact that both coverage of the specification and the quality of imports and exports generally have improved following an earlier plugfest, none of the software supported the E-portfolio NL specification to the full extent (i.e. categories A to L of Figure 1). Interestingly, the plugfest appears to have prompted some international players with a prominent presence in the Dutch market, who were not present at the plugfest, to take up the dialogue with their user-groups on E-portfolio NL. Though this holds some promise for the future, at present the best strategy for users of these e-portfolios is to structure them in such a way that any export of the e-portfolio optimally aligns with the national standard. Within the Service Centre for Lifelong Learning Limburg project, this approach was further investigated in relation to the Blackboard e-portfolio.

#### **4 Service Centre Lifelong Learning Limburg (SC4L)**

The most southern province of the Netherlands, called Limburg, is faced with relatively high unemployment figures, combined with an increasingly aging population and a threat of shortages in health care personnel. In an attempt to address this complex of factors, the province of Limburg has made substantial investments in a number of projects to enhance mobility through lifelong learning and accreditation of prior learning, e.g. the Service Centre for Lifelong Learning Limburg project (SC4L), Zorgacademie Parkstad, Let’s Connect etc. The Service Centre Lifelong Learning Limburg (SC4L) project investigates current e-portfolio practices in the partner institutions with the aim to establish what it would require to bring these practices in line with the national standard, so that learners can carry their e-portfolios with them when they go from one institution to another. All educational providers, except the Open Universiteit, have a more or less centralised e-portfolio

approach, meaning that they have developed e-portfolios as integral parts of the Learning Management System (LMS), though actual deployment varies across subject domains. A number of regional small to large enterprises and non-profit organisations are engaged in project pilots: Beatrixhaven, Nedcar, Central Bureau of Statistics, Youth unemployment, LICOM, License to Operate. Generally speaking the companies and organisations involved in these pilots have little to no experience with e-portfolios.

The Learning Management Systems used by the educational providers are Fronter, N@tschool and Blackboard. Although the contents of these e-portfolios can be fairly straightforwardly mapped on the E-portfolio NL standard, two important issues emerge. First, the apparent freedom and variety in structuring e-portfolios within these systems offer reason for concern regarding the quality of the export-results and the ease with which they can be mapped on E-portfolio NL. Second, some friction arises from the fact that ownership of the e-portfolio lies principally with the learner, whereas certain information e.g. 'Accessibility/Special requirements' is likely to be not only needed but also provided by the institution rather than the learner.

The SC4L work package on e-portfolio addressed these issues in a new e-portfolio to be implemented in the context of a part-time HE competence based distance learning programme in Law, delivered through the Blackboard 9.1 (SP4) Learning Management System. Blackboard makes a distinction between a basic and a personal portfolio. Both the personal portfolio and the basic portfolio allow users to refer to items stored elsewhere either directly in a text field or by allowing access to files stored in Blackboard's Content Collection. In the case of the personal portfolio it is also possible to upload files stored locally. Closer examination reveals that these various options lead to considerable differences regarding the resulting exports, most importantly regarding the extent to which the export reflects the original e-portfolio structure. Referring to a file in a text field in a personal portfolio, for instance, results in an export containing the file with a different name and without a clear connection to its original location in the e-portfolio. Referring to an item stored locally outside the text field improves the resulting export in that it holds the original name, but it appears still disconnected from its original location, thus obscuring the original structure. If the export of a Blackboard portfolio is to reflect the original structure of the portfolio, this can be achieved through three options only: a. using the basic portfolio and referring to items in Content Collection in the text field; b. using the basic portfolio and including a view on Content Collection items; c. using the personal portfolio and referring to items in Content Collection below the text field.

Regarding the second issue mentioned above concerning the friction between individual ownership and institutional use and/or provision of data, we think that especially concerning a category such as access it is inevitable that the portfolio owner's views may diverge from a 'formal' institutional view/assessment. To the extent that the owner wishes to include institutional views he or she is of course free to do so. However this cannot be required. If the ownership principle is to be adhered to, 'double book keeping' is to some extent inevitable.

## **5. Conclusion and discussion**

Four years after its official launch as a National Technical Agreement, E-portfolio NL is developing into both a *de facto standard* and a *de jure standard*. However the daily reality for many portfolio users is one of portfolios that are at best portable in the sense of being exportable, but not in the sense of being interoperable (i.e. enabling near effortless transitions from one system to another), simply because current e-portfolio use is to a considerable extent supported by providers who have not (yet) adopted the E-portfolio standard. In this respect Joyes, Gray, & Hartnell-Young (2010) refer to the need of "a mature institutional approach where the role of ownership and the disruptive nature of e-portfolio implementation are fully considered by a wide range of stakeholders" (p. 25). In the SC4L project we have explored ways to minimize disruption by designing an e-portfolio within a LMS in a way that facilitates mapping of the e-portfolio export to the national standard.

Although the lack of e-portfolio interoperability is considered an argument against the feasibility and/or desirability of a lifelong e-portfolio (Clark, 2011), in our view it is an inevitable aspect of standardisation processes and the level of patience they require (Janssen, 2010). We agree with the INTEGRATE workshop that large companies and employment agencies are highly influential in the

process of adoption of the standard. However, we believe financial investments will not suffice to solve the current lack of integration of e-portfolios in human resource management policies and practice, as experiences in the SC4L pilots indicate that no strong practice has developed as yet concerning career development and personal development planning.

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