The profession of a translator is becoming more and more popular in the modern globalizing world. Translators have switched from pencil and paper to more effective and sophisticated electronic tools. Various approaches to improvement of translator training models take into account not only the trainees' translation competence, but also the market demands [1]. Electronic tools for translators provided increase of speed and quality of technical translation process. Efficiency of modern translation companies is directly related to software they use for project management, translation, terminology management and proofreading. Transition to extensive use of sophisticated computer tools in professional technical translation took several years. Thus, translators of all levels of expertise need new skills to stay up-to-date in the translation market while universities with technical translation programs have to offer computer-aided translation courses to be competitive education service providers [2]. Different groups of prospective students for computer-aided translation courses have different expectations and translation experience. It requires flexibility in teaching computer-aided translation with customized approach to all groups of students. This paper offers flexible learning program for technical computer-aided translation for various target groups. A specific pathway along the translation process algorithm is selected by every student. Final outcomes are skills in optimization and facilitation of a translation process in the specific engineering area a student represents with customized use of technical translation software tools. Technical translation algorithm followed by translation agencies and freelance translators consists of several general steps [1,2]: 1. Translation agency receives new order. Software used: communication and emailing programs; 2. Order is processed by a project manager and distributed among translators. Software used: project and database management programs; 3. Preparation to translation. Software used: PDF tools, electronic dictionaries and data mining web tools; 4. Translation process. Software used: text editors, translation memory and terminology management tools; 5. Proofreading. Software used: text editors, data mining and terminology management tools; 6. Project delivery to a customer. Software used: project and database management programs. Full accomplishment of the steps of this algorithm is not necessarily a common cause as a translator can receive a prepared project from a translation agency and implement Step 3 only or just make a proofreading. In addition, software versions are constantly changing. Various categories of students can apply for technical translation course with different areas of technical translation in mind. Too many degrees of freedom make flexible learning approach a good solution for teaching computer-aided technical translation especially for engineering students [3]. The core of any technical translation process is a translation project. Its format, content and volume determine optimal pathway through aforementioned algorithm and efficient selection of software tools. Project-based learning [4] is a useful and efficient instrument for computer-aided technical translation because a translation project in education aspect can be assumed to be a feedback tool for a student and a teacher to personalize translation algorithm

and therefore customize student learning environment. The expected goal is optimization and facilitation of translation process according to student's major area of engineering study and personal level of translation expertise. This concept refers to the concept of service learning [5] and self-education [6] as students will witness direct impact of their new skills on the quality of service they provide to their potential customers in terms of improved translation and to society in terms of eliminating understanding barriers. Introduction of a feedback project modifies translation algorithm (Fig. 1). Fig. 1 Project-oriented Technical Translation Algorithm Optimization of a translation process using computer-aided tools is carried out by a student in the process of study and can start from any step of the translation algorithm. As the initial level of knowledge is different, the effect is achieved by selection of weak areas, such as achieving new skills in translation memory and terminology management first with further proceeding to project management step. Each specific student or group of students will pass through a customized translation pathway resulting in understanding optimization methods of a real project and skills in application knowledge to the future projects. The resulting amount and distribution of contact hours among topics and can be adapted to different duration of a computer-aided translation program in a university or form a basis for distance learning courses and individual training. Distribution of contact hours is therefore flexible and can be calculated by the analysis of demand from students to seminars and lectures dedicated to description of a certain translation stage and software. Such a demand emerges during work of students on their specific translation project and is therefore individual. Social networking solutions as well as dedicated university software are appropriate for tracking of such demands and planning the number of seminars for each problem. The resulting amount of contact hours can be further modified by a teacher to reach the required program duration so greater attention will be given to weak areas demonstrated by each specific target group of students. Flexible learning approach was tested on several groups of students each representing different target group in Kazan National research Technological University (Fig. 2). Fig. 2 The amount and distribution of contact hours required by different target groups to attend a computer-aided translation program Fig. 2 represents modification of a standard 34 contact hours Computer-aided Translation Program provided for the Polymer Engineering students in Kazan National Research Technological University. The project-based requirements for each group were to achieve industry-level skills in terminology management with 15 % increase of the rate of translation. Selected students applied for technical translation program and representing various engineering majors required 26 hours of flexible learning to follow aforementioned requirements with major focus on project management, preparation, translation memory and terminology management. Polymer engineers, representing a group with similar projects and similar customization opportunities demonstrated major interest in preparation and translation process with the same outcomes. Finally, a group of

translators from the International Office required some polishing of translation memory management skills and data mining tips to achieve the same level of translation optimization. The programs for all the target groups were based on the same basic approaches: • Translation agency-based technical translation algorithm; • Project-oriented feedback; • Flexible learning method. Translation algorithm applied by translation agencies provided building blocks for computer-aided technical translation program. Individual translation projects provide criteria for selection of building blocks to form customized training algorithm. Flexible learning was implemented for teaching students with various engineering feedback and levels of translation expertise. The resulting increase of translation rate and terminology management efficiency are achieved with fewer amounts of contact hours and better student satisfaction through involvement into practical projects with real impact on the quality and rate of translation and direct relation to industry or engineering education area they are specialized in. The software in this paper was grouped into categories without offering concrete solutions to allow further flexibility for teachers in composing the list of up-to-date software they prefer to use for specific student groups.