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The Upgrade of the ESRF, Plans for 2008-2017 Sine Larsen on behalf of the ESRF, European Synchrotron Radiation Facility, 6 Rue Jules Horowitz, BP-220, Grenoble, France. E-mail: slarsen@esrf.fr

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The ESRF has been in operation for more than ten years, and more than 6000 users come every year to the ESRF to do experiments on its 40 beamlines. With around one scientific publication per experimental session, the ESRF is doing well in terms of scientific productivity, and over the years it has opened for the use of synchrotron radiation in many new different scientific areas, most recently in paleontology and cultural heritage. In collaboration with its advisory bodies, the ESRF has over the last two years developed plans that will allow the ESRF to maintain its position as a leading European Synchrotron Facility serving broad scientific and national communities. These plans that involve improvement of the accelerator and source, beamlines and associated infrastructure are

presented in the so-called “purple book”. The ESRF user community is invited to come to the ESRF on October 24, to give input to and discuss the Upgrade Programme presented in the Purple Book. The Scientific Programme that forms the basis for the Upgrade Programme contains the following key themes: *Nanoscience and nanotechnology, Pump Probe Experiments and Time-resolved Diffraction, Science at Extreme Conditions, Structural and Functional Biology and Soft Matter, and X-ray Imaging*. Most of this research requires the use of nanosized X-ray beams, and to achieve this, the construction of long beamlines is necessary, which enable a demagnification of the source. The need for long beamlines is a prerequisite to carry out a large part of the scientific programme. The construction of about 10 new long beamlines necessitates an extension of the Experimental Hall, which at the same time provides room for the creation of new and improved research infrastructures. The ESRF’s long-term goal is to provide the best possible facilities for European Science. An overview will be given on the Upgrade Programme and its benefits for the synchrotron radiation scientific community.