**The need**
The project was phase one of a two-phase programme to repair the cathedral roofs. It included replacement of the lower, failed asphalt roofs and associated glazing, which were causing leaks and staining and risked closure of some areas of the building. The problem was discovered during the 2013 Quinquennial Inspection. A subsequent report by the Lead Sheet Association identified that the problems were caused by a combination of an inadequate gauge of lead and insufficient allowance for thermal expansion and extraction.

**Outcomes**
The repaired roofs no longer cause leaks or staining and have prevented closure of areas of the building. As a result the cathedral has produced an improved maintenance plan for the roof, which will help with minimising future costs. Safety standards are now much higher, which has had an impact on how maintenance is carried out and roof leaks that had been present since the building was built are now gone. The projects have helped improve the understanding of the building and built expertise for applying to grants and looking out for new funding sources. As a result the cathedral has set up a new fund to raise money from the general public, called the Cephas fund, to help with supporting revenue and repair costs.

**Economic and social impact**
The project supported one job and one apprenticeship in leadworking, along with a number of timber/joinery apprenticeships. The repair projects have increased the appreciation of the building and have spurred the staff and volunteers to focus more on the building itself within their guided tours. The cathedral has also been encouraged to run more events, particularly concerts and First World War commemoration activities, such as a silent film with footage from the War which was accompanied by music from the Bristol Symphony Orchestra.

**Works completed and timescale**
Work began in May 2015. It consisted of the replacement of the lower, failed asphalt roofs and to address the problems identified with the lead roofing. The leadwork details for the whole building were revised and improved to meet current Lead Sheet Association standards. Replacement glazing and roof lights were also installed to reduce condensation and draughts. The works were completed in March 2017.

**The Cathedral**
The current cathedral is a remarkable building of the late Brutalist era, completed in 1973 to an innovative design by R J Weeks, responding to the requirements set down by the Second Vatican Council that the congregation should all have a good view of the altar; accordingly, the sanctuary is hexagonal to allow the 1,000-capacity congregation a close and clear view, and there are no windows within their line of sight of the altar. Daytime lighting is provided by natural roof lights, so that the light from outside comes from the ring beam walls. This ensures that the sanctuary area remains the focus of the cathedral.
The need
The original heating of the cathedral was via a direct gas-powered system with a major fault in that the products of combustion entered the cathedral’s airflow system. It therefore had to be turned off when the building was in use. In addition, the boiler house was subject to regular flooding. There was an opportunity to improve obsolete lighting and electrical systems at the same time, as all these services run in conduits set into the walls and floor of the cathedral and could be accessed together with the heating infrastructure using the same scaffolding and access points.

Outcomes
The building is now a more comfortable environment, being warmer and better lit, and the sound generated by the heating system no longer affects services and events. The improved lighting allows the art work and monuments in the building to be better displayed and has spurred the cathedral to develop more public information about these pieces. The external lighting ensures that the building is a safer place for those who visit and worship there. The cathedral has saved money due to the elements being completed simultaneously and being able to share resources, such as scaffolding. The projects have helped improve the understanding of the building and develop staff expertise for applying to grants and looking out for new funding sources. As a result, the cathedral set up a new fund to raise money from the general public, called the Cephas fund, which will support revenue and repair costs.

Economic and social impact
The project has increased the appreciation of the building and have encouraged the team to focus more on the building itself within their guided tours. The cathedral has also been encouraged to run more events, particularly concerts and First World War commemoration activities, such as a silent film with footage from the War which was accompanied by music from the Bristol Symphony Orchestra.

Works completed and timescale
The work began in September 2017. It consisted of improving the lighting, electrics and replacing the heating with a new system that uses the principle of blown-air heating that exploits an advanced air-handling plant with mechanical heat recovery and an efficient gas boiler flued to the atmosphere. New wiring and surface-mounted containment was installed for the electrics and low energy and high-quality light fittings that would improve the lighting levels and the architectural quality of the Cathedral. All external lighting was also upgraded.

The Cathedral
See previous project summary.