CLAIMS

1. A method (400; 500) implemented by an augmented reality (AR) device (DV1) for performing AR content rendering, said method comprising:
   - transmitting (S8), to a processing device (DV2), encoded video picture data (DT2) representative of a video picture (PR1) of a real-world scene;
   - receiving (S10), from said processing device (DV2), physical lighting information (DT4) representative of at least one physical light source (SC1) and virtual lighting information (DT6) representative of at least one virtual light source (SC2);
   - obtaining (410; S14) virtual relighting effects (RL1) based on virtual lighting information (DT6) independently of the physical lighting information;
   - obtaining (412; S16) hybrid relighting effects (RL2) based on the virtual lighting information (DT6) and based on physical lighting information (DT4); and
   - generating (408; S18) an AR video picture (PR3) by aggregating a real-world scene relighted based on the virtual relighting effects (RL1) and at least one virtual object relighted based on the hybrid relighting effects (RL2); and
   - rendering (S20) said AR video picture (PR3).

2. The method of claim 1, wherein said generating of an AR video picture comprises:
   - obtaining (410; S14) a relighted real-world scene by applying, based on a video picture representative of the real-world scene, said virtual relighting effects (RL1);
   - obtaining (412; S18) at least one relighted virtual object (OB2) by applying, based on 3-dimensional (3D) information representative of said at least one virtual object, said hybrid relighting effects (RL2); and
   - aggregating the relighted real-world scene and the at least one relighted virtual object into the AR video picture.

3. The method of claims 1 or 2, wherein said at least one physical light source and said at least one virtual light source are defined by respectively the physical and virtual lighting information (DT4, DT6) as ambient light sources and/or as punctual light sources of any one of the following types:
   - directional light sources;
   - point light sources; and
   - spot light sources.

4. The method of any one of claims 1 to 3, further comprising:
   - obtaining a scene description document comprising first lighting information associated with a first indicator (IT1);
   - recognising, based on the first indicator, the first lighting information as the physical lighting information (DT4); and
   - obtaining the virtual lighting information (DT6) via an API of an AR content rendering application.

5. The method of any one of claims 1 to 3, further comprising:
   - obtaining a scene description document comprising at least one of first lighting information associated with a first indicator (IT1) and second lighting information associated with a second indicator (IT2);

   wherein the method further comprises at least one of:
   - determining, based on the first indicator (IT1), that the first lighting information is to be used as the physical lighting information (DT4); and

- determining, based on the second indicator (IT2), that the second lighting information is to be used as the virtual lighting information (DT6).

6. The method of any one of claims 1 to 3, further comprising:
   - obtaining a scene description document comprising a descriptor; and
   - accessing, based on the descriptor, the virtual and physical lighting information (DT4, DT6) contained in a data stream.

7. The method of any one of claims 1 to 6, further comprising:
   - detecting, based on at least one indicator (IT1, IT2) comprised in a received bitstream, that the received bitstream (BT2) carries, as metadata, said virtual and physical lighting information; and
   - extracting said virtual and physical lighting information (DT4, DT6) from the received bitstream.

8. The method of any one of claim 1 to 7, further comprising:
   - obtaining 3D coordinates in association with the virtual and physical lighting information (DT4, DT6) respectively; and
   - determining, based on the 3D coordinates, spatial positions where the virtual and physical lighting information apply relative to the real-world scene;

   wherein the virtual and hybrid relighting effects (RL1, RL2) are determined based on the spatial positions of the virtual and physical lighting information.

9. A method (540) implemented by a processing device (DV2) for enabling AR content rendering, said method comprising:
   - obtaining (S44) physical lighting information (DT4) representative of at least one physical light source (SC1), by performing a first lighting estimation based on a video picture (PR1) of a real-world scene;
   - obtaining (S46) virtual lighting information (DT6) representative of at least one virtual light source (SC2) emitting virtual light in the real-world scene; and
   - transmitting (S48), to an AR device (DV1), the physical and virtual lighting information for enabling AR rendering of an AR video picture (PR3).

10. The method of claim 9, wherein the physical and virtual lighting information (DT4, DT6) are transmitted in a scene description document for enabling AR rendering of an AR video picture (PR3),

    said scene description document comprising at least one syntax element representative of the virtual and physical lighting information and at least one indicator (IT1, IT2) indicating the presence of the virtual and/or physical lighting information within the scene description document.

11. A scene description document (SD1), formatted to comprise at least one syntax element representative of virtual and physical lighting information (DT4, DT6) and at least one indicator (IT1, IT2) indicating the presence of virtual and/or physical lighting information within the scene description document, as obtained from the method of claim 10.

12. An AR apparatus (DV1) for AR content rendering, the apparatus comprising means for performing one of the methods claimed in any one of claims 1 to 8.

13. A processing apparatus (DV2) for enabling AR content rendering by an AR apparatus (DV2), the processing apparatus comprising means for performing the method of claims 9 or 10.

14. A computer program product including instructions which, when the program is executed by one or more processors, causes the one or more processors to carry out a method claimed in any one of claims 1 to 10.

15. A non-transitory storage medium carrying instructions of program code for executing a method claimed in any one of claims 1 to 10.