CLAIMS

1. An air supply system for supplying air to an outside of a hull of a vessel, the vessel holding a combustion engine, the air supply system comprising:
    - one or more air discharge units, ADUs, for releasing compressed air to an outside of the hull below a waterline of the vessel,
    - a first turbocharger and a second turbocharger for supplying a compressed air flow to the combustion engine of the vessel via a first flow path, the first turbocharger and the second turbocharger each comprising a turbine configured to be driven by an exhaust gas flow of the combustion engine and a compressor connected to the turbine and comprising an inlet for receiving air and an outlet for providing the compressed air flow to the first flow path, wherein the first turbocharger and the second turbocharger are arranged in series with an inlet of the compressor of the second turbocharger being connected to and receiving compressed air from the first flow path downstream of the compressor of the first turbocharger in the first flow path, and
    - a first sub-path and a second sub-path branching off the first flow path and supplying a sub-flow of air to the ADUs, wherein the first sub-path branches off from the first flow path downstream of the first turbocharger and upstream of the second turbocharger and wherein the second sub-path branches off from the first flow path downstream of both the first turbocharger and the second turbocharger.

2. The air supply system according to claim 1, wherein the turbine of the first turbocharger is arranged downstream of the turbine of the second turbocharger in an exhaust gas flow from the combustion engine.

3. The air supply system according to any one of the previous claims, wherein the second turbocharger is smaller than the first turbocharger.

4. The air supply system according to any one of the previous claims, wherein the first sub-path comprises a first flow control device for controlling the air flow through the first sub-path and the second sub-path comprises a second flow control device for controlling the air flow through the second sub-path.

5. The air supply system according to claim 4, wherein the compressed air in the first flow path is scavenge air for the engine, and wherein the first flow control device is configured to allow a flow of compressed air through the first sub-path when a load of the combustion engine is above a load threshold and to prevent the flow through the first sub-path when the load of the combustion engine is below the load threshold.

6. The air supply system according to any one of claims 4 or 5, wherein the compressed air in the first flow path is scavenge air for the engine and wherein the second flow control device is configured to allow a flow of compressed air through the second sub-path when a load of the combustion engine is below a load threshold and to prevent the flow through the second sub-path when the load of the combustion engine is above the load threshold.

7. The air supply system according to any one of claims 4 to 6, wherein the first flow control device and/or the second flow control device comprises an orifice and/or a control valve.

8. The air supply system according to any one of the previous claims, wherein the air supply system comprises a first air cooler for cooling of the compressed air flow from the first turbocharger and a second air cooler for cooling of the compressed air flow from the second turbocharger, wherein the first air cooler and the second air cooler are arranged in the first flow path and wherein the first sub-path is connected to the first flow path downstream of the first air cooler and wherein the second sub-path is connected to the first flow path downstream of the second air cooler.

9. The air supply system according to claim 8, wherein the air supply system comprises a water mist catcher for removing condensate from the compressed air flow, wherein the water mist catcher is arranged in the first flow path downstream of the second air cooler, and wherein the first sub-path and the second sub-path are connected to the first flow path upstream of the water mist catcher.

10. A vessel comprising the air supply system according to any one of the claims 1 to 9.